



CANADA YEAR BOOK


1956

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Ottawa—chosen in 1857 by Queen Victoria to be Canada's National Capital.

The Parliament Buildings, in their jewel-like setting, now crown the height that was bare "Barracks Hill" a hundred years ago. Since that time each successive generation has played its part in the building of a city of interest and beauty and in the development of its all-important function as the administrative centre of a great and growing nation.



CANADA YEAR BOOK

1956

THE OFFICIAL STATISTICAL ANNUAL OF THE RESOURCES,
HISTORY, INSTITUTIONS, AND SOCIAL AND ECONOMIC
CONDITIONS OF CANADA

Published by Authority of
The Right Honourable C. D. Howe, Minister of Trade and Commerce

DOMINION BUREAU OF STATISTICS
CANADA YEAR BOOK SECTION
Information Services Division

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OTTAWA, 1956

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THE OFFICIAL STATISTICAL YEARBOOK OF THE RESOURCES,
HISTORY, INSTITUTIONS AND SOCIAL AND ECONOMIC
CONDITIONS OF CANADA

The first issue of the C. I. B. Year Book is published in English and French.

DOMINION BUREAU OF STATISTICS
CANADA YEAR BOOK 1956
Information Section Division

For a complete list of the
publications of the
Dominion Bureau of Statistics,
see the back of this book.

7818

PREFACE

The Canada Year Book, the official annual compendium of information on the institutions and the economic and social development of the nation, may be said to have had its origin in the "Year-Book and Almanac of British North America for 1867", although this and succeeding volumes down to 1879 were published privately but with official blessing. Upon the passage of a general Statistics Act in 1886, an official reference volume was instituted under the title "Statistical Abstract and Record of Canada" and produced by the General Statistics Office of the Department of Agriculture. Upon the amalgamation of the General Statistics Office and the Census Office, the Year Book was remodelled in 1905 and issued under the title "The Canada Year Book, Second Series".

The new series of Canada Year Books witnessed the birth of the Dominion Bureau of Statistics in 1918 as the centralized statistical organization for Canada and, as the Bureau expanded its program of statistical compilation and analysis in keeping with the nation's development, the Canada Year Book has endeavoured to present the story through feature articles, statistical tables and analytical commentary designed to elucidate statistically and otherwise the essential social and economic elements in the progress of Canada. The present edition of the Canada Year Book has discarded its half-century-old cover for an attractive light blue buckram, bearing the Canadian coat of arms, and has widened its type measure and reduced the leading between the lines in order to accommodate more wordage per printed page, but its objective remains constant—to portray the essential elements of Canada's growth in a dignified, factual style within the covers of a single volume.

A number of special feature articles of current interest have been incorporated in the Canada Year Book 1956. These include "Mapping and Charting in Canada" (pp. 17-22); "The National Capital Plan" (pp. 30-34); "Scientific Management of Game Fish in Canada's National Parks" (pp. 35-39); "Geophysics in Canada" (pp. 43-49); "Astronomy in Canada" (pp. 49-55); "The Privy Council Office and Cabinet Secretariat in its Relation to the Development of Cabinet Government" (pp. 62-70); "Financial Administration of the Government of Canada" (pp. 101-107); "Mental Health" (pp. 248-253); "Tuberculosis" (pp. 254-257); "Poliomyelitis Vaccine" (pp. 258-260); "The Federal-Provincial Forestry Agreements" (pp. 459-466); "Canada's Mineral Industry 1954-55" (pp. 490-511); "Seasonal Unemployment in Canada" (pp. 758-766); "Traffic on the Great Lakes-St. Lawrence Seaway" (pp. 821-829); and "Marketing Farm-Produced Foods" (pp. 917-922).

In addition to the above-mentioned special articles, other features and revisions have been introduced in various chapters. Among these are a brief historical sketch of the Census with a statistical summary of the principal enumerations; an enlarged survey of scientific, medical and industrial research; line-maps showing concentration of pulp and paper manufacturing in Canada; an analysis of trends and developments in the fisheries industries; line-maps of manufacturing production in western Canada; a progress report on the construction of the St. Lawrence Seaway accompanied by a map; a further installment on oil and gas pipeline developments; a newly-integrated account of broadcasting in Canada, as well as the up-dating of basic material dealing with such subjects as agriculture, vital statistics, public health, forestry, mining, manufactures, domestic and foreign trade, hydro-electric power development, capital expenditure on construction, machinery and equipment, public finance, banking, insurance, labour, national income and expenditure, Canada's balance of international payments, and various aspects of national defence. Numerous charts and maps throughout the volume portray graphically the rapidly developing economy which is outlined in the Introduction (pp. viii-xix).

The concluding chapter presents much handy reference material listing Government information services, special articles published in earlier Year Books, federal legislation of the recent session of Parliament, official appointments, a Canadian chronology of events and a statistical table summarizing the economic progress of Canada since 1871.

In the Appendix certain material on Government (Chapter II) is brought up to date of going to press, including a listing of the personnel of the Ministries of five provincial governments elected to power during 1956.

A large folding map of Canada and a chart of the Federal Government are enclosed in the pocket on the inside back cover of the volume.

The present volume has been produced in the Canada Year Book Section by John F. McVea, Assistant Editor of the Year Book and Chief of the Section, with the assistance of Miss M. Pink, Miss C. Freeth and the Year Book Staff, under the general editorship and direction of Dr. C. C. Lingard, Director of the Information Services Division. Charts, graphs and all maps bound into the volume have been prepared for publication under the direction of J. W. Delisle, Senior Draughtsman of the Bureau.

The co-operation of numerous officials of the various Departments of the Federal and Provincial Governments and of this Bureau in the preparation of material for the Year Book is gratefully acknowledged. Credit by means of footnotes is given where possible either to the persons or to the branches of the public service concerned.

Information bearing on any errors or omissions and suggestions respecting methods of treatment are welcomed by the Director.

Herbert Marshall

DOMINION STATISTICIAN

DOMINION BUREAU OF STATISTICS,
Ottawa, October 8, 1956

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WEIGHTS AND MEASURES AND OTHER INTERPRETATIVE DATA

In Canada as a rule the Imperial system of weights and measures is followed. An exception however is the ton where, unless otherwise stated, the short ton of 2,000 lb. is meant. Billion where used represents 1,000 million.

The following table shows the weights and measures used in Canada in connection with the principal field crops and for wheat flour and fruits:—

	<i>Pounds per Bushel</i>		<i>Pounds</i>
Grains—		Fruits (standard conversions)—	
Wheat.....	60	Apples, per barrel.....	135
Oats.....	34	Apples, per box.....	43
Barley.....	48	Pears, per bushel.....	50
Rye.....	56	Plums “ “.....	50
Buckwheat.....	48	Cherries “ “.....	50
Flaxseed.....	56	Peaches “ “.....	50
Corn.....	56	Grapes “ “.....	50
Mixed grains.....	50	Pears, per box.....	42
All others.....	60	Strawberries, per quart.....	1·25
		Raspberries “ “.....	1·25
		Loganberries “ “.....	1·25

Wheat Flour—

1 barrel equals 196 pounds and approximately 4·5 bushels of wheat are used in the production of a barrel of flour.

Relative Weights and Measures, Imperial and United States

The following list of coefficients may be used to translate amounts expressed in one unit to the other. It must be borne in mind that where the list below refers to Imperial pint, quart and gallon, their equivalent in ounces is also in Imperial measure; likewise United States designations for these quantities are shown in the U.S. equivalent in ounces. The Imperial (or British) fluid ounce and the U.S. fluid ounce are different measures, 1 Imperial fluid ounce equalling 0·96 United States fluid ounce. Similarly 1 Imperial gallon equals 1·2 United States gallon.

1 Imperial pint=20 fluid ounces.	1 Imperial proof gallon=1·36 United States proof gallon.
1 United States pint=16 fluid ounces.	1 Short ton =2,000 pounds.
1 Imperial quart=40 fluid ounces.	1 Long ton=2,240 pounds.
1 United States quart=32 fluid ounces.	1 Barrel crude petroleum = 35 Imperial gallons.
1 Imperial gallon=160 fluid ounces.	
1 United States gallon=128 fluid ounces.	

FISCAL YEARS OF FEDERAL AND PROVINCIAL GOVERNMENTS

The fiscal year of the Federal Government and of each of the ten Provincial Governments ends on March 31.

Throughout the Year Book, fiscal year figures are indicated in the text and headings of tables; otherwise figures are for calendar years.

INTRODUCTION

THE CANADIAN ECONOMY IN 1955*

During 1955 economic activity in Canada recovered sharply from the mild contraction that had characterized the period mid-1953 to mid-1954. The output of goods and services, which had begun to rise in the latter part of 1954, expanded rapidly throughout 1955 and for the year as a whole was approximately 10 p.c. higher than in the full year 1954. The up-swing raised the Gross National Product to \$26,600,000,000 in 1955 compared with \$24,100,000,000 in the previous year. Since final product prices remained relatively stable, the increase reflected almost entirely an expansion in the volume of production, which showed the largest gain of any single postwar year. It may be recalled that in 1954 the volume of output declined by 3 p.c. while some increases in the labour force and productive capacity were taking place. These developments made possible the sharp increase in the volume of output in 1955. The increase over 1953, the previous peak year in terms of volume of production, was about 6 p.c.

Several important expansionary factors contributed to the 1955 growth in output. A rise of \$1,000,000,000 in personal expenditures on consumer goods and services led the advance in final purchases and, while all segments of consumer outlays increased, the major advance was recorded by the durable goods group. It is interesting to note that per capita personal consumption in volume terms in 1955 was about 12 p.c. above the 1949 level and that one-third of this increase occurred between 1954 and 1955. Per capita consumption of durable goods was 40 p.c. above the year 1949. Accompanying the 1955 advance in the consumer sector, residential construction outlays showed a gain of \$300,000,000 or about 25 p.c., reflecting both the sharp rise in personal incomes and the ready availability of mortgage funds. Consumer outlays and housing expenditures together accounted for more than half the increase in Gross National Expenditure in 1955.

Exports of goods and services, which declined in 1954, recovered strongly in 1955 rising by \$600,000,000 or 11 p.c. This strength in foreign demand for Canadian goods and services was associated with the marked recovery of business activity in the United States and the rising level of activity in overseas countries. The bulk of the gain in exports was concentrated in wood and wood products, iron and its productions and non-ferrous metals, with declines occurring in the agricultural products groups.

Turning to the investment sector, business outlays for plant, machinery and equipment absorbed \$300,000,000 of the \$2,500,000,000 increase in total output in 1955. It may be recalled that business investment outlays for new construction and machinery and equipment declined late in 1953 and early in 1954, after which time they remained relatively stable. During 1955, in response to a sharp rise in profits and the growing pressure of demand on existing capital facilities, business investment outlays began to rise and were moving upward strongly at year-end. Imports of machinery and equipment items were especially heavy in the last half of the year.

There were other expansionary factors in 1955: government expenditures for goods and services rose \$300,000,000, with gains occurring at all three levels; the larger grain crop contributed about \$300,000,000 to the gain in total Gross National Product; and the swing in business inventories from liquidation in 1954 to net accumulation in 1955 amounted to \$400,000,000. Under these stimuli, Canadian production rose at an uninterrupted pace throughout 1955, although a considerable part of both final and inventory demand was channelled into imports which rose by more than \$700,000,000 during the year. In the first half of 1955 the increase in final demand was closely paralleled by the rise in Canadian production and imports showed only a moderate increase. In the last half of the year however imports rose very sharply and a substantial portion of the gain in final purchases as well as the stepped-up inventory demand were met from foreign sources of supply. Thus the rise in Canadian production in the last half of 1955 was somewhat smaller than that occurring earlier in the year. This development reflected the fact that

* Prepared in the Research and Development Division, Dominion Bureau of Statistics.

in the latter part of 1955 the Canadian economy was approaching capacity production in some lines and the quarter-to-quarter increases in output were accordingly less substantial. At year-end, Gross National Product was running at a seasonally adjusted annual rate of \$27,400,000,000, about 3 p.c. above the annual average for 1955 as a whole.

In 1955 personal and business incomes continued to expand, mainly as a consequence of successive quarter-to-quarter gains in wages and salaries and in investment including corporation profits. Wages and salaries advanced approximately 7 p.c. above the 1954 level while investment income was up 20 p.c. and corporation profits 24 p.c. In addition there was an important increase in net income of farm operators resulting from the substantially higher level of crop production in 1955. National income as a whole was approximately 11 p.c. above the previous year.

The rising tempo of economic activity in 1955 was accompanied by a substantial increase in employment and a decline in unemployment. At year-end, the number of persons with jobs was about 4 p.c. higher than at the end of 1954 and the number of persons without jobs and seeking work was almost 20 p.c. lower. The number of persons with jobs in the non-agricultural sector rose by 7 p.c. during the year. Average hours worked per week in manufacturing increased in 1955 by about 1 p.c.

Prices on average were relatively stable during 1955. However, prices of non-agricultural primary materials began to edge upward more noticeably after mid-year while agricultural prices continued to decline. In particular prices of non-grain exports products (especially non-ferrous metals) showed increases, and the export price index of goods rose by 2 p.c. As the price of imported goods showed a smaller advance, a slight improvement in Canada's terms of trade took place in 1955. Construction material prices also increased somewhat in 1955, especially in the latter half of the year. The continued decline in agricultural prices in 1955 reflected the large stocks of grains and ample supplies of other agricultural products in Canada and abroad. The wholesale price index rose by 3 p.c. during the year while the consumer price index showed little change.

INDUSTRIAL PRODUCTION

All major industrial groups in the Canadian economy except fishing and trapping participated in the general expansion of economic activity during 1955. Contrasting with 1954 when production declined by about 3 p.c., the total physical volume of output in 1955 rose by 9 p.c., the largest advance of any postwar year. Contributing partly to this increase was the sharp gain in agricultural production, largely the result of the greater outturns of grain; output of livestock showed a more moderate advance.

Increased domestic and foreign demand for Canadian wood products resulted in greater activity in the forestry sector. Pulpwood production rose by about 4 p.c. and the output of sawmills 13 p.c. On the other hand, the fishing and trapping industries both declined. Landings of cod on the East Coast and of salmon, halibut and herring on the West Coast were considerably lower than in 1954.

The continued expansion of the mining industry was again a notable feature of the economic picture. The volume of mineral output attained a new record increasing nearly 16 p.c. above the 1954 level. This was the largest advance for any year since before the War and brought the volume of production index for the industry to a point 150 p.c. higher than in 1946. Supported by strong foreign demand, output of metals rose by 11 p.c. to surpass the previous record level established in 1941. Contributing substantially to the advance was the sharp gain in iron-ore shipments which increased 124 p.c. over 1954. Output of copper, nickel and zinc was also considerably greater, production of gold showed some improvement but lead and silver declined. The major non-metallics, asbestos and gypsum, reflected the tremendous construction activity both in Canada and abroad, rising 14 p.c. and 18 p.c., respectively, in 1955. Output of fuels as a whole advanced 28 p.c.; crude oil jumped 35 p.c. and natural gas 21 p.c. but coal, on the other hand, declined a further 1 p.c. Coal has shown a continuous decline since 1950 as the shift to other forms of energy has gained momentum.

Public utilities continued their expansionary trend; electric power production recorded a gain of more than 10 p.c. and gas distribution was up 7 p.c. compared with 1954.

In total, the volume of production of the primary industries, which account for about one-fifth of the Gross National Product, rose more sharply in 1955 than that of the secondary and service industries. Manufacturing production, representing about 30 p.c. of the total output, advanced by over 7 p.c. in 1955 and all major groups with the exception of transportation equipment contributed. As a result of the distinct gain in personal expenditure on consumer durables and in investment in new housing, plant, equipment and business inventories, output of durable manufactured goods rose by over 9 p.c.; non-durables increased 6 p.c. Among the durable industries, gains of between 10 and 15 p.c. were shown by wood products, iron and steel products, non-ferrous metal products, electrical apparatus and supplies and non-metallic mineral products. Production of primary iron and steel rose by 41 p.c. Despite a 30 p.c. increase in the output of motor vehicles, the transportation equipment industry was down by about 2 p.c. compared with 1954, largely as a result of major declines in shipbuilding, aircraft and railway rolling stock. All the principal industries within the non-durable manufacturing group increased their output, the major gains being shown by the rubber, textile and petroleum and coal industries. Beverages and tobacco products each advanced about 9 p.c. and pulp and paper nearly 6 p.c. Increases in other non-durable industries were more moderate.

Related indicators suggest that the construction industry recorded a marked gain over the preceding year. Residential starts and completions rose by 22 p.c. and 25 p.c., respectively. Reflecting the sharp advance in industrial activity and the accompanying pressure on existing capacity, the value of new non-residential construction rose by 7 p.c. in the same comparison.

The service industries as a whole continued their steady expansion as activity in all groups was at a higher level in 1955. The volume of retail trade was up about 9 p.c.; all major trades recorded increases, motor vehicle dealers showing the sharpest gain, followed by furniture and appliance stores and department stores.

The transportation, storage and communication group of industries was at a considerably advanced level of activity in 1955. The number of railway revenue cars loaded was 10 p.c. higher than in the preceding year as a result of major increases in the transportation of iron ore, motor vehicles, building materials, lumber and timber, woodpulp, fertilizers and petroleum products; by contrast, grain, grain products and farm machinery were down from a year earlier. Among the other transportation industries, air transport and oil pipelines continued their spectacular growth while trucking and shipping showed more moderate advances. Storage activity was at a lower level because of reduced receipts and shipments of grain. The communications group continued to expand as the result of increased demand for telephone and telegraph service and further major advances in radio and television transmission services.

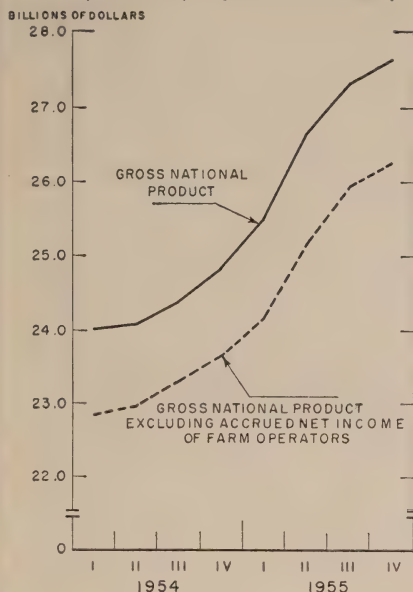
The majority of other service industries recorded advances over 1954; among these were finance, insurance and real estate services, government service, education and health services and business services.

NATIONAL INCOME AND GROSS NATIONAL PRODUCT

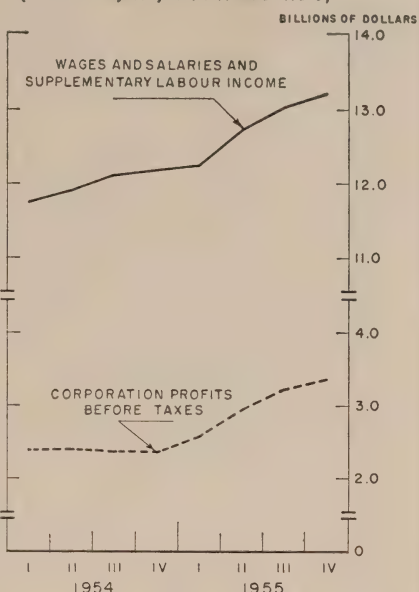
Labour income rose to nearly \$12,900,000,000 in 1955 or more than 7 p.c. above the level of 1954, after having gained only 2 p.c. between 1953 and 1954. The rise in 1955 was associated with a 5 p.c. increase in the number of paid workers and a 3 p.c. advance in average weekly earnings in the major non-agricultural industries. The 3 p.c. gain in average weekly earnings reflects both an increase in average hours worked per week and in average rates of pay. Since average consumer prices remained relatively unchanged in 1955, the increase in labour income from the previous year represented a further advance in "real" earnings.

SELECTED ECONOMIC HIGHLIGHTS 1954 AND 1955

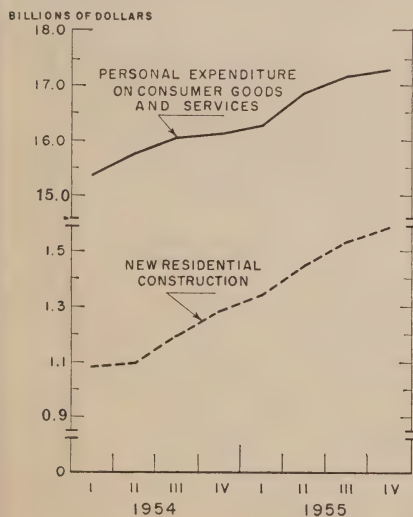
GROSS NATIONAL PRODUCT (Seasonally Adjusted Annual Rate)



GAINS IN WAGES AND SALARIES AND CORPORATION PROFITS (Seasonally Adjusted Annual Rate)



CONSUMER GOODS AND SERVICES AND INVESTMENT IN NEW HOUSING (Seasonally Adjusted Annual Rate)



EXPORTS AND IMPORTS (Seasonally Adjusted Annual Rate)



* Note that, in this Chart and in those on the following three pages, where reference is made to "seasonal adjustment", this means that, to facilitate comparison between quarters and to indicate at what levels the various sectors of the economy are operating, the data have been adjusted for seasonal variation. That is, the average amount that activity normally rises or falls as a result of changing seasons has been eliminated, so that the underlying movements stand out more prominently.

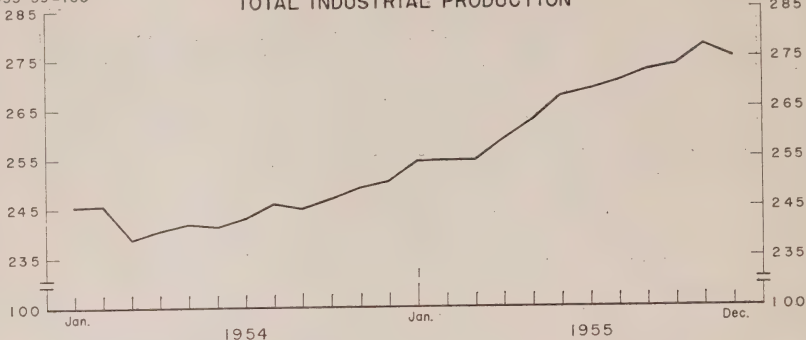
THE RISE IN INDUSTRIAL PRODUCTION IN 1955 WAS WIDESPREAD, WITH MAJOR GAINS IN DURABLE GOODS MANUFACTURING AND IN MINING

VOLUME INDEX
1935-39=100

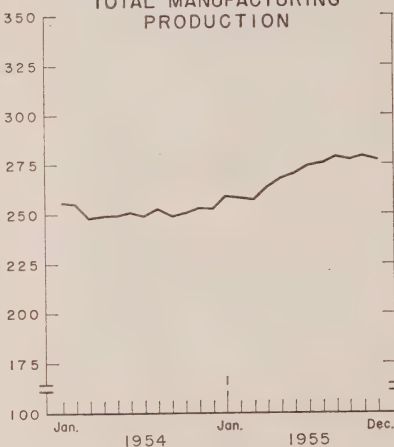
(Seasonally Adjusted)

VOLUME INDEX
1935-39=100

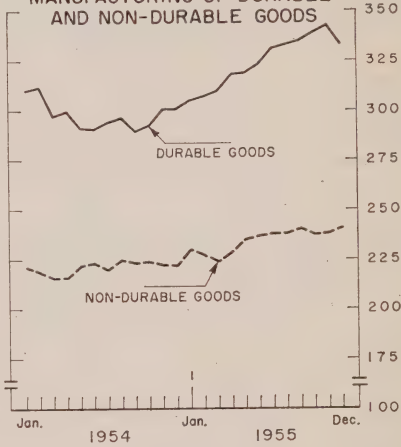
TOTAL INDUSTRIAL PRODUCTION



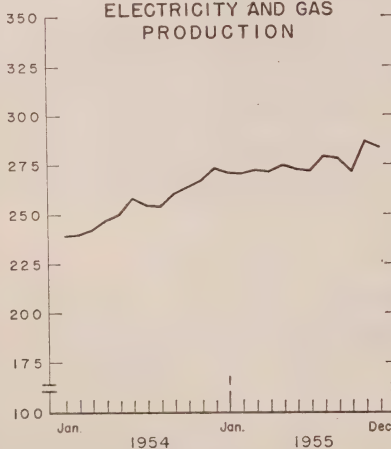
TOTAL MANUFACTURING PRODUCTION



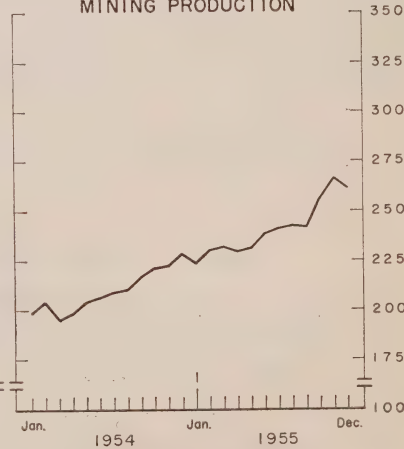
MANUFACTURING OF DURABLE AND NON-DURABLE GOODS



ELECTRICITY AND GAS PRODUCTION

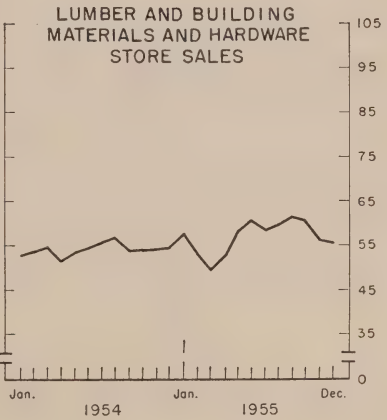
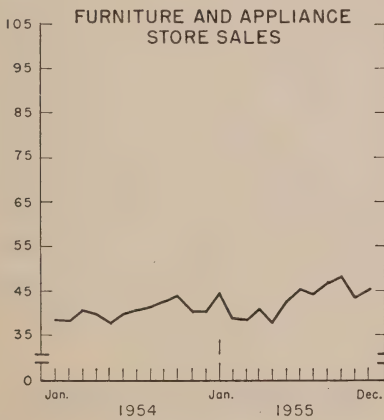
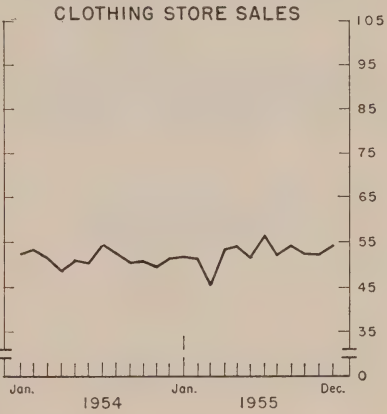
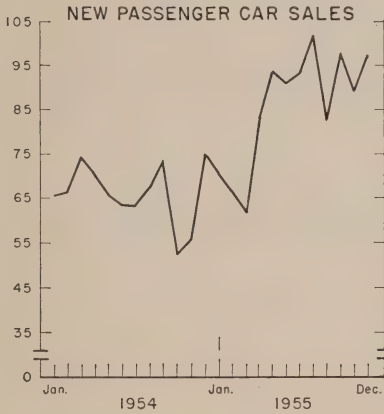


MINING PRODUCTION



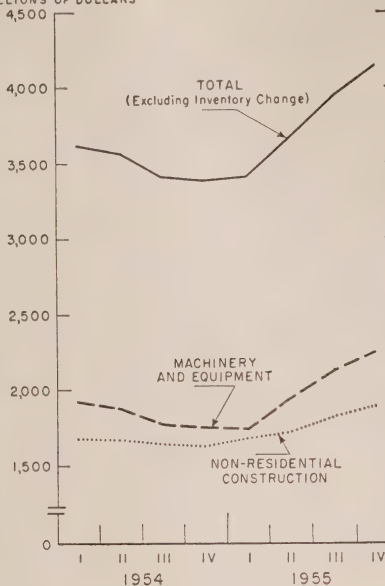
RETAIL SALES IN 1955 AVERAGED 7 PERCENT ABOVE THE PRECEDING YEAR.
 SALES OF NEW PASSENGER CARS ROSE BY 30 PERCENT

(Monthly Data Seasonally Adjusted)



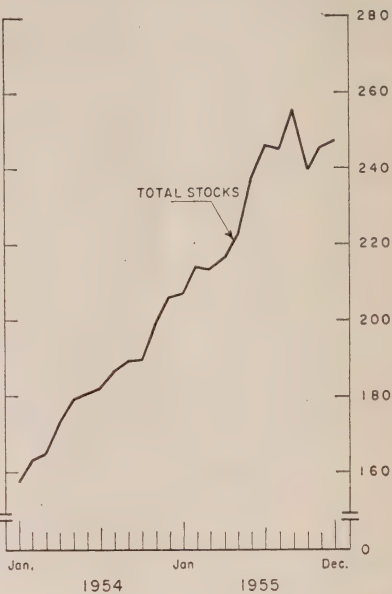
NEW BUSINESS INVESTMENT (Seasonally Adjusted Annual Rate)

MILLIONS OF DOLLARS



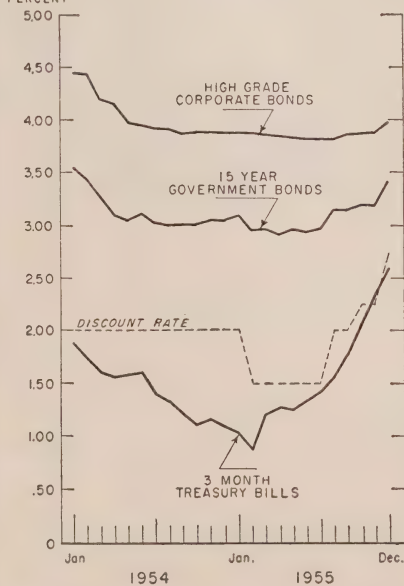
COMMON STOCK PRICES INDEX

(Base: 1935-39=100)



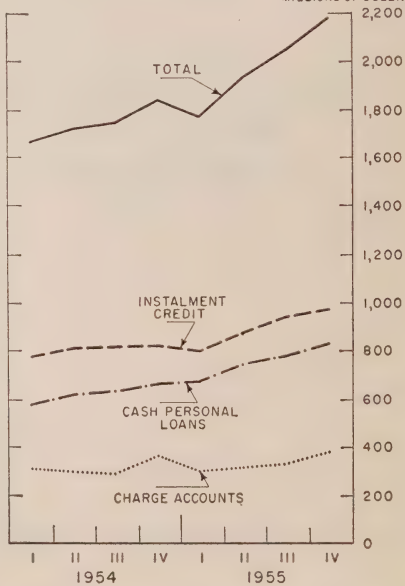
INTEREST RATES

PERCENT



CONSUMER CREDIT OUTSTANDING

MILLIONS OF DOLLARS



The changes in production were paralleled to a large extent by changes in the industrial components of labour income in 1955. Wages and salaries in construction experienced the largest relative gain, rising 14 p.c. over the 1954 level. The increase in the finance and service industries amounted to approximately 10 p.c. and in the manufacturing and the distributive trades to 6 p.c. The primary industry group showed contrasting movements; substantial increases occurring in the mining and forestry industries were offset in part by some fall-off of wages and salaries in agriculture and fishing. These variations had no appreciable effect on the distribution of income earned by the main industrial groups.

The quarter-to-quarter movement of labour income was continuously upward in 1955 although the rate of growth slowed somewhat after mid-year. In the fourth quarter, labour income was running at a seasonally adjusted annual rate of \$13,300,000,000, or 3 p.c. above the annual average for the year as a whole.

Investment income amounted to \$4,500,000,000 in 1955, an increase of 20 p.c. over 1954. Almost three-fourths of that gain is attributable to a sharp advance in corporation profits which are estimated to have risen by about 24 p.c. to reach a new peak of \$3,000,000,000. This is the first increase in corporation profits since 1951 when, responding to the up-swing in industrial activity following the outbreak of hostilities in Korea, they amounted to \$2,800,000,000. It may be noted that in 1951 inventory valuation gains attributable to rising prices accounted for a substantial part of total profits, whereas in 1955 inventory gains of this nature were much more moderate.

All other elements of investment income showed gains in 1955. Interest and net rental receipts of persons rose by about 10 p.c., reflecting increases in average rents, growth in the number of housing units, and higher deposit interest paid by banks. Government investment income also increased 10 p.c., associated in large part with higher profits of government business enterprises.

Accrued net income of farm operators from farm production in 1955 amounted to \$1,400,000,000, compared with \$1,100,000,000 in the previous year. This increase is entirely attributable to the higher value of crop production but it may be noted that a large proportion of the total grain crop went into inventory accumulation in 1955 and much of the increase in production is represented by net additions to farm stocks of grain. Farm cash income declined slightly in 1955, increased returns from wheat, flax, potatoes and cattle being more than offset by lower returns from oats, barley, rye and hogs.

Net income of other unincorporated business advanced by about 7 p.c. in 1955 to a level of \$1,800,000,000. This rise was concentrated in construction and retail trade, the former reflecting a higher volume of residential housing construction.

Indirect taxes less subsidies amounted to \$3,200,000,000 in 1955, an increase of 9 p.c. over 1954. At the federal level the increase in indirect taxes amounted to 8 p.c. The largest single increase occurred in customs import duties which rose by 17 p.c. responding to the sharp rise in merchandise imports of 15 p.c. Excise taxes and excise duties increased by 6 p.c. and 8 p.c., respectively, reflecting a marked increase over the previous year in shipments of goods subject to these types of taxes.

Provincial indirect taxes were higher by 13 p.c. in 1955. Increased expenditures by consumers were mirrored in higher collections of general retail sales and gasoline sales taxes at the provincial level, while higher activity in the extractive industries such as mining and forestry contributed to an increase in public domain revenues. The increase of 5 p.c. in municipal indirect taxes in 1955 can be ascribed mainly to higher real estate and personal property taxes, which continued to move upward as investment in residential and non-residential construction increased.

COMPONENTS OF GROSS NATIONAL EXPENDITURE

As in 1954, the major expansionary force in the economy in 1955 was personal expenditure on consumer goods and services, which rose by 7 p.c. during the year to reach \$16,800,000,000. The increase was associated with a sharp rise in the level of personal

income which recorded the largest per capita gain (in real terms) of the postwar period. The rise in durable goods purchases in 1955 was especially marked, with a gain of about 11 p.c., while non-durable goods purchases and outlays for services showed gains of 6 and 7 p.c. respectively. Non-durable goods purchases accounted for about one-half of the total gain in consumer outlays, although in percentage terms the increase was only about half as great as that for durable goods purchases. While there were marked shifts in the composition of consumer prices in 1955, on average they showed little change, so that the volume increase in total consumer expenditure paralleled the value increase of 7 p.c.

In the durable goods group, some of the more striking increases in 1955 occurred in the following items: unit sales of new passenger cars were up by 25 p.c. over 1954 (the gain from the first to second quarter was particularly noteworthy); refrigerator shipments were up 14 p.c.; washing machine shipments 25 p.c.; and television set shipments 22 p.c. Sales of furniture and appliance stores also showed major gains. Prices of durable goods in 1955 were about 5 p.c. below the average for 1954 so that the volume gain in durable goods purchases amounted to about 17 p.c. compared with a value gain of 11 p.c. The advance in total durable goods sales over 1954 was accompanied by an increase in instalment credit outstanding.

The major gain in non-durable goods purchases in 1955 was in the food component, which rose by 5 p.c. In contrast to 1954 when purchases of clothing declined, there was a modest gain in that item in 1955. Gains in other sub-components of the non-durable goods group were widespread. Since prices of non-durable goods were relatively stable, the volume gain in non-durable expenditure in 1955 was approximately the same as the value increase of 6 p.c.

Consumer outlays for services continued to move upward during the year. The advance was accompanied by a price increase, so that the volume of consumer services in 1955 was somewhat less than the value increase.

In the fourth quarter of 1955 personal expenditure on consumer goods and services was running at a rate of \$17,200,000,000, about 2 p.c. above the average for the year 1955 as a whole.

Purchases of goods and services by all levels of government (federal, provincial and municipal) amounted to \$4,600,000,000 in 1955, 6 p.c. above the 1954 level. The increase over 1954 reflected gains in federal and provincial capital investment outlays, the expansion of municipal facilities associated with the high level of house-building activity, higher outlays for salaries and wages and slightly higher defence expenditures. Defence outlays did not constitute a major expansionary influence in 1955 but continued to provide an important sustaining element.

Gross domestic investment in fixed durable assets reached an alltime peak of \$5,300,000,000 in 1955, 13 p.c. above 1954. This gain provided an important stimulus to final demand in 1955, in contrast to 1954 when declines occurred in non-residential construction and investment in machinery and equipment. The year-end level of gross domestic investment was at a seasonally adjusted annual rate of \$5,800,000,000, 9 p.c. above the 1955 yearly average. The year-to-year increase over 1954 was spread among the three major groups—housing, non-residential construction, and new machinery and equipment. The advance in housing contributed about one-half of the total gain; new investment in machinery and equipment accounted for less than one-third, and non-residential construction provided the remainder.

The rise in construction activity was matched by increased employment in the construction industry as measured by the labour force survey. For 1955 as a whole, total construction employment was 10 p.c. above the 1954 average, while in the fourth quarter of 1955, the gain was 13 p.c. over the corresponding period of the previous year. Slightly higher prices for construction materials and an increase in wage rates accompanied these developments in 1955. In the fourth quarter comparison, the increase in both wage rates and building material costs was substantially greater than the average gain for the full

year. Towards the end of 1955 the supply of certain building materials, such as cement and steel was becoming rather tight, though the shortage did not appear to have held back the investment program to any appreciable extent.

A variety of influences was responsible for the increase in investment in 1955. In the field of housing construction, the larger supply of mortgage funds made available by the banking system, along with a rising level of personal disposable income, made possible a striking gain in the number of housing units built. The value of housing construction in 1955 was estimated at \$1,476,000,000, up 27 p.c. from 1954.

The influences affecting investment in non-residential construction and machinery and equipment were somewhat different from those affecting housing. The downturn in late 1953 and early 1954 made available excess capacity in some portions of the economy, and this slack was gradually utilized as the recovery gained ground. However, as 1955 progressed the expansion began to press upon existing capacity, and plant and equipment investment programs were sharply increased to meet current and anticipated demand.

New non-residential construction was valued at \$1,775,000,000 in 1955, up 7 p.c. from the preceding year. However, the pick-up did not appear strongly until the last half of the year, when the seasonally adjusted annual rate was running at about \$1,900,000,000, or 13 p.c. above 1954.

Investment in new machinery and equipment amounted to \$2,017,000,000 in 1955, up 10 p.c. from 1954 but still slightly below the 1953 peak year. However, by the fourth quarter of 1955 the annual rate of investment in machinery and equipment reached \$2,300,000,000 and was at a rate equal to the previous high in the third quarter of 1953. The volume of machinery investment in the fourth quarter was still below the 1953 peak, inasmuch as prices of these items have risen somewhat over the past two years. Most of the increase in machinery investment in 1955 was met through larger imports, which rose sharply over the previous year.

Total inventory investment amounted to \$450,000,000 in 1955, compared with a liquidation of \$280,000,000 in the previous year. This swing in inventory investment of \$730,000,000 made a substantial contribution to the higher level of Gross National Product in 1955. The turn-around was partly a reflection of the larger grain crop in 1955 and partly a reflection of the pronounced up-swing in final demand which appeared to require higher levels of business inventory holdings to prevent a further fall-off in stock sales ratios. It should be noted, however, that certain industrial and wholesale prices were rising in 1955 and that about one-half of the value swing in business inventories can be accounted for by these price factors. In terms of volume change, the shift in total inventories from liquidation in 1954 to accumulation in 1955 amounted to about one-third of the real increase in Gross National Product.

The major part of the business inventory build-up in 1955 occurred in manufacturing and in wholesale and retail trade. The first two of these sectors had experienced marked liquidations of inventory in 1954, so that they also accounted for the largest share of the turn-around in business inventories between 1954 and 1955.

The accumulation of business inventories in 1955, amounting to \$257,000,000, took place at different rates throughout the year. In the first quarter there was a very substantial build-up reflecting in large part the accumulation of automobile inventories at the factory level. In the second and third quarters final purchases of goods were increasing sharply and additions to inventories were moderate. By the fourth quarter of the year, while final purchases continued to expand, the combined supply of goods coming from domestic production and the high rate of imports in the later part of the year were sufficient to add substantially to business stocks on a seasonally adjusted basis. This accumulation in the fourth quarter was spread fairly generally throughout the industrial groups, with increases occurring (after allowing for seasonal variation) in motor vehicles, parts and accessories, iron and steel products, electrical apparatus and supplies, clothing, paper products and in a wide range of other commodities.

Responding to the recovery of industrial activity in the United States, strong overseas demand for Canadian goods, a rising level of Canadian production and higher consumer and investment outlays, exports and imports of goods and services rose to new levels in 1955. The gain in exports was 11 p.c., and in imports 14 p.c., bringing the annual levels to \$5,700,000,000 and \$6,300,000,000, respectively. These advances in exports and imports of goods and services were mainly attributable to a sharp recovery in commodity trade in 1955, following the declines of the previous year. However, payments and receipts on invisible items were also up sharply in 1955.

In the export group, gains in forest products, minerals, metals and chemicals were especially noteworthy. Sharp increases occurred in exports of iron ore, chemicals and crude petroleum, made possible by new industrial capacity in Labrador and Western Canada. Gains in wood and wood products, and non-ferrous metals were of particular significance in the total export increase, the latter group reflecting to a large extent higher prices. The sharp advances in the commodity exports more than offset a decline in shipments of grain and in some types of manufactured products in 1955. In the fourth quarter of 1955, the annual rate of exports of goods and services was \$5,800,000,000, 2 p.c. above the average for the year 1955 as a whole.

Even more striking than the gain in exports in 1955 was the sharp advance in commodity imports, particularly in the latter half of the year. The major part of the increase in imports was from United States sources, and in the third and fourth quarters of 1955 imports from that country were 23 p.c. and 28 p.c., respectively, above the same period of 1954. While the increase in imports was widespread, the major gains occurred in metal products including primary steel, industrial machinery and equipment, automobiles and parts, aircraft, electrical apparatus and other kinds of hard goods. These increases were related to the recovery of investment in plant and equipment and consumer outlays for durable goods in 1955. Imports of textile materials and products also rose sharply in 1955, associated with a pick-up in clothing and textile production, and higher consumer expenditure on clothing. In the fourth quarter, imports of goods and services were running at a seasonally adjusted annual rate of \$7,000,000,000, almost 10 p.c. above the annual average for the full year 1955.

Personal income amounted to \$19,800,000,000 in 1955, a gain of 9 p.c. over the previous year. The difference in this increase and the 11 p.c. gain in national income, was mainly a reflection of the fact that corporation profits, included in national income, rose much more sharply in 1955 than dividend payments to Canadians. It may be recalled that in 1954 personal income showed a small advance in the face of a decline in national income. This difference was again partly a reflection of the relatively greater stability of dividend payments, which continued to be maintained at a time when profits were declining.

All components of personal income were higher in 1955. Of the \$1,600,000,000 increase over the previous year, \$900,000,000 was accounted for by higher wages and salaries, \$300,000,000 by higher farm income, and the balance by government transfer payments, interest, dividends and net rental income, and net income of non-farm unincorporated business.

Turning to the expenditure side, personal expenditure on consumer goods and services rose by 7 p.c. in 1955; personal direct tax collections were about 4 p.c. higher reflecting for the most part a sharp increase in succession duty collections; personal income tax collections were level with the preceding year, reflecting mainly the inter-action of a higher level of personal income in 1955 and a reduction of the personal income tax rate effective from mid-year.

Personal saving in 1955 amounted to \$1,500,000,000 compared with \$1,000,000,000 in 1954, an increase attributable in large part to the higher grain crop in 1955. As a percentage of personal income, personal saving made up 7.5 p.c. of the personal income total in 1955 compared with 5.3 p.c. in 1954. Gross national saving rose by 30 p.c. in 1955, from \$4,000,000,000 in 1954 to \$5,200,000,000. This increase was attributable to

higher levels of personal and business saving, each of which contributed about \$500,000,000 to the total gain of \$1,200,000,000 and to a larger consolidated government surplus, which contributed an additional \$200,000,000. National saving was 20 p.c. of gross national product in 1955 compared with 17 p.c. in 1954 and 20 p.c. in 1953. Despite the sharply increased level of the nation's saving in 1955, the amount available was nevertheless insufficient to support the expanded program of capital investment in housing, plant, machinery and equipment, and inventories. Thus, while national saving was at a rate of \$5,200,000,000, the total domestic investment program including inventories amounted to \$5,700,000,000. The short-fall in the nation's saving was met again by drawing upon foreign resources, and the deficit on current account in 1955 amounted to \$651,000,000, an increase of \$225,000,000 over the deficit sustained in 1954.

SYMBOLS

The interpretation of the symbols used in the tables throughout this publication is as follows:—

. . figures not available.

... figures not appropriate or not applicable.

— nil or zero.

- - amount too small to be expressed or where “a trace” is meant.

^p preliminary figures.

^r revised figures.

CHAPTER I.—PHYSIOGRAPHY AND RELATED SCIENCES

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found on the facing page.

PART I.—GEOGRAPHY*

Canada comprises the greater part of the northern half of North America lying between the United States, Alaska and Greenland. In longitude Canada extends from Cape Spear, Newfoundland, at 52°37'W, to Mount St. Elias, Yukon Territory, at 141°W, a distance of 88°23'. In latitude it stretches from Middle Island, Lake Erie, at 41°41'N, to the North Pole. The northernmost point of land is Cape Columbia on Ellesmere Island, at 83°07'N. Thus Canada is essentially a western and a northern country, a fact of increasing strategic significance. Moreover the climatic, vegetation and soil belts are drawn out into broad east-west zones, thereby supporting the east-west orientation of the main frontier of the country and aiding Canada's historic east-west development.

The shape of Canada is like a distorted parallelogram with its four corners making important salients. In the north the salient formed by the Arctic Archipelago, which penetrates deep into the Arctic basin, guards the northern approaches to the continent from Europe and Asia and makes Canada neighbour to the Union of Soviet Socialist Republics. In the south the salient of peninsular Ontario thrusts far into the heart of the United States. In the east the salient of Labrador and the Island of Newfoundland commands the shortest crossings of the North Atlantic Ocean and links Canada geographically with the United Kingdom and France. In the west the broad arc of land between Vancouver in southern British Columbia and Whitehorse in Yukon Territory provides

* Prepared by the Geographical Branch, Department of Mines and Technical Surveys, Ottawa.

the shortest crossings of the North Pacific Ocean between continental North America and the Far East. Canada thus stands at the crossroads of contacts with the principal powers and some of the most populous areas of the world.

In size, Canada is the largest country in the Western Hemisphere and the second largest country in the world. Its area of 3,845,774 sq. miles may be compared with that of the Union of Soviet Socialist Republics, 8,598,701 sq. miles,* the United States of America (including Alaska), 3,608,653 sq. miles,* and Brazil, 3,288,050 sq. miles.* It is more than forty times the size of the United Kingdom and eighteen times the size of France. This immense size however while multiplying certain resources and seeming to afford much scope for settlement has imposed its own burdens and limitations, particularly because much of the land is mountainous and rocky or is under an Arctic climate. The developed portion is probably not more than one-third of the total; the occupied farm land is only 7.6 p.c. and the currently accessible forested land 16.1 p.c. of the total. The population of Canada, estimated at 15,601,000 on June 1, 1955, may be compared with 162,414,000* for the United States (1954) and with 57,098,000* for Brazil (1954).

1.—Approximate Land and Freshwater Areas by Province and Territory

NOTE.—A classification of land area as agricultural, forested, etc., is given at p. 23.

Province or Territory	Land	Fresh Water	Total	Percentage of Total Area
	sq. miles	sq. miles	sq. miles	
Newfoundland (incl. Labrador).....	147,994	7,370	155,364	4.0
Prince Edward Island.....	2,184	--	2,184	0.1
Nova Scotia.....	20,743	325	21,068	0.6
New Brunswick.....	27,473	512	27,985	0.7
Quebec.....	523,860	71,000	594,860	15.5
Ontario.....	333,835	78,747	412,582	10.7
Manitoba.....	219,723	26,789	246,512	6.4
Saskatchewan.....	220,182	31,518	251,700	6.6
Alberta.....	248,800	6,485	255,285	6.6
British Columbia.....	359,279	6,976	366,255	9.5
Yukon Territory.....	205,346	1,730	207,076	5.4
Northwest Territories.....	1,253,438	51,465	1,304,903	33.9
Franklin.....	541,753	7,500	549,253	14.3
Keewatin.....	218,460	9,700	228,160	5.9
Mackenzie.....	495,285	34,265	529,490	13.7
Canada.....	3,562,857	282,917	3,845,774	100.0

Section 1.—Physical Geography

Subsection 1.—Physiographic Divisions

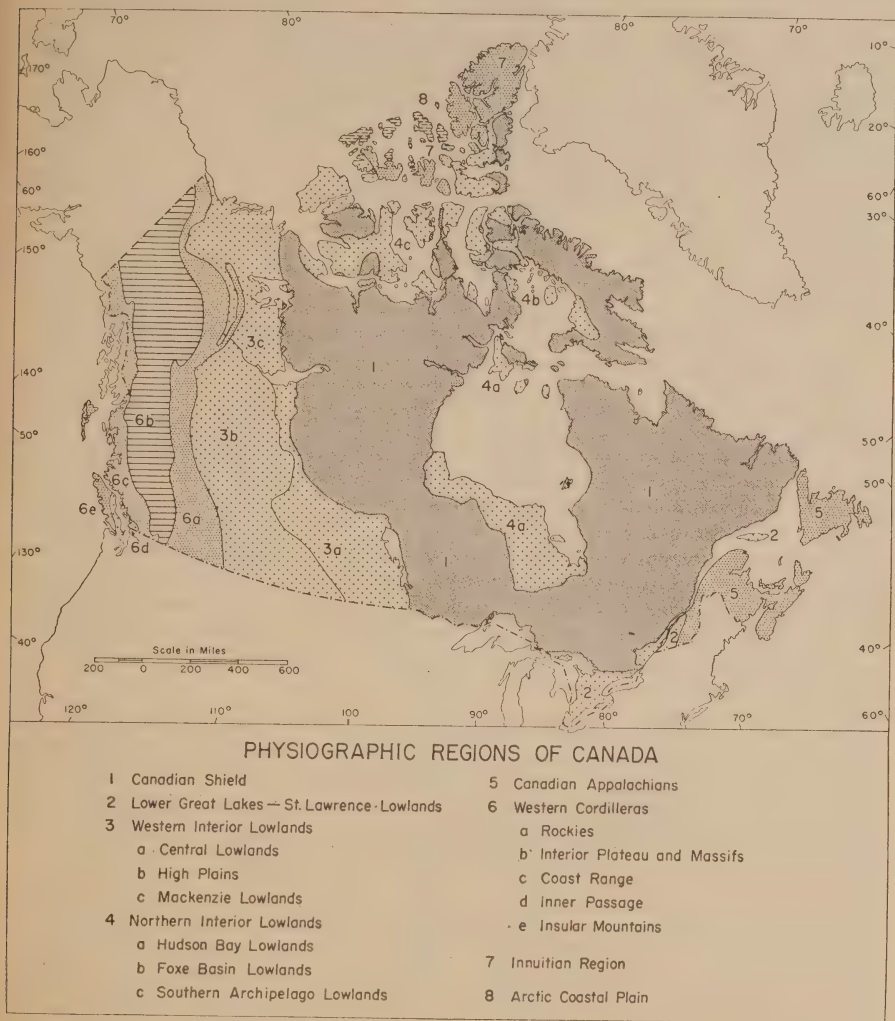
Canada includes each of the major characteristic structures of the North American continent with the exception of the Atlantic coastal plain. Structure tends to dominate relief to a remarkable degree even though its effects have been modified by glacial and river erosion or deposition. Consequently structural regions have become main physiographic divisions. Basically Canada consists of a central rocky upland, or shield, sloping down to flanking basins filled with sedimentary strata and rising again at its margins to mountains of folded rocks, interspersed with igneous intrusions.

Eight physiographic regions dominate the country: (1) The Canadian Shield; (2) the Lower Great Lakes-St. Lawrence Lowlands; (3) the Western Interior Lowlands of the Prairies and the Mackenzie basin; (4) the Northern Interior, that is, Hudson Bay,

* *United Nations Statistical Yearbook, 1954.*

Lowlands and those of the southern Arctic Archipelago; (5) the mountains of the Canadian Appalachians; (6) the Western Cordilleras; (7) the Arctic ranges, the name for which is the Innuition Region; and (8) the Arctic Coastal Plain.

A comprehensive treatment of these eight regions is given in the 1955 Year Book, pp. 3-10.



Subsection 2.—Inland Waters

The inland waters of Canada (not including salt water areas that are a part of Canada) are extensive, constituting over 6 p.c. of the total area of the country. They are best studied by segregating the main drainage basins as shown in Table 2.

2.—Drainage Basins

Drainage Basin	Area Drained ¹	Drainage Basin	Area Drained ¹
	sq. miles		sq. miles
Atlantic Basin.....	694,880	Arctic Basin (mainland).....	944,280
Ontario.....	116,000	Saskatchewan.....	46,650
Quebec.....	372,780	Alberta.....	158,110
Newfoundland.....	153,720	British Columbia.....	105,020
New Brunswick.....	28,300	Yukon.....	53,970
Nova Scotia.....	21,830	Northwest Territories.....	580,530
Prince Edward Island.....	2,250		
Hudson Bay Basin.....	1,160,420	Pacific Basin.....	387,210
Quebec.....	199,230	British Columbia.....	251,990
Ontario.....	259,810	Yukon.....	135,220
Manitoba.....	243,780		
Saskatchewan.....	189,620	Gulf of Mexico Basin.....	8,600
Alberta.....	86,530	Alberta.....	2,540
Northwest Territories.....	181,450	Saskatchewan.....	6,060

¹ Areas are approximate and are exclusive of those portions of the basins of all rivers that lie in United States territory.

During the early period of exploration and development the waterways of Canada were the sole means of access to and travel in the interior. This function is still of importance to much of the country particularly in the north where most traffic moves by water or by air. In the settled areas however the construction of roads and railways has reduced the role of the waterways as transportation routes but they have assumed other functions. Some, particularly in the Canadian Shield area and the Cordilleran region, have been harnessed for the production of electric power. Others, mainly in southern Alberta and Saskatchewan, have been dammed to provide water for irrigation purposes. In Eastern Canada many of the rivers have been controlled in an over-all program of flood prevention and conservation of renewable resources or to provide dependable supplies of water for industrial and domestic purposes.

In Eastern Canada the Great Lakes and St. Lawrence drainage basin dominates all others and forms an unequalled system of navigable inland waterways through a region rich in natural and industrial resources. From Duluth, Minn. at the head of Lake Superior to Belle Isle at the entrance to the Gulf of St. Lawrence the distance is 2,280 miles. The St. Lawrence waterway and its tributaries, most of which have lakes available for reservoiring, have very large developed and potential power resources.

The greater part of Canada drains into Hudson Bay and the Arctic Ocean; the Nelson River drainage is exceptional in running *through* the most arable and the most settled part of Western Canada but otherwise the rivers of the West, east of the Rockies, run *away* from the settled areas towards the cold northern salt waters and this adversely affects their industrial utility. The Mackenzie River, which drains Great Slave Lake, is, with its headwaters, the longest river in Canada (2,635 miles) and its valley constitutes the natural transportation route through the Northwest Territories to the Arctic Ocean. From Fort Smith on the Slave River large river boats run without any obstruction to Aklavik on the delta of the Mackenzie, a distance of 1,292 miles. Table 3 gives the lengths of the principal rivers with their tributaries classified according to the four major drainage basins.

3.—Lengths of Principal Rivers and Their Tributaries

NOTE.—In this table the tributaries and sub-tributaries are indicated by indentation of the names. Thus the Ottawa and other rivers are shown as tributary to the St. Lawrence, and the Gatineau and other rivers as tributary to the Ottawa.

Drainage Basin and River	Length miles	Drainage Basin and River	Length miles
Flowing into the Atlantic Ocean		Flowing into Hudson Bay—concluded	
St. Lawrence (to head of St. Louis, Minn.).....	1,900	Eastmain.....	510
Ottawa.....	696	Fort George (to Nichicun Lake).....	480
Gatineau.....	240	Attawapiskat.....	465
du Lièvre.....	205	Kazan.....	455
Coulonge.....	135	Nottaway (to head of Waswanipi).....	400
Madawaska.....	130	Waswanipi.....	190
Rouge.....	115	Nelson (to head of Lake Winnipeg).....	400
Mississippi.....	105	Rupert.....	380
Petawawa.....	95	Red (to head of Lake Traverse).....	355
South Nation.....	90	George (to Hubbard Lake).....	345
Dumoine.....	80	Moose (to head of Mattagami).....	340
North.....	70	Abitibi.....	340
North Nation.....	60	Mattagami.....	275
Saguenay (to head of Peribonca).....	475	Missinabi.....	265
Peribonca.....	280	Hayes.....	300
Mistassini.....	185	Winisk.....	295
Ashuapmucuan.....	165	Whale.....	270
St. Maurice.....	325	Harricanaw.....	250
Mattawin.....	100	Great Whale.....	230
Manicouagan (to head of Racine-de-Bouveau).....	310	Leaf.....	165
Outardes.....	270		
Bersimis.....	240	Flowing into the Pacific Ocean	
Richelleu.....	210	Yukon (mouth to head of Nisutlin).....	1,979
St. Francis.....	165	Yukon (Int. Boundary to head of Nisutlin).....	714
Chaudière.....	120	Porcupine.....	590
Via the Great Lakes—		Lewes.....	338
French (to head of Sturgeon).....	180	Pelly.....	330
Sturgeon.....	110	Stewart.....	320
Grand.....	165	Macmillan.....	200
Thames.....	163	White.....	185
Spanish.....	153	Columbia (total).....	1,150
Trent.....	150	Columbia (in Canada).....	459
Mississagi.....	140	Kootenay (total).....	407
Nipigon (to head of Ombabika).....	130	Kootenay (in Canada).....	276
Moira.....	60	Fraser.....	850
Thessalon.....	40	Thompson (to head of North Thompson).....	304
St. John.....	418	North Thompson.....	210
Romaine.....	270	South Thompson (to head of Shuswap).....	206
Natashquan.....	241	Nechako.....	287
Moisie.....	210	Stuart (to head of Driftwood).....	258
Hamilton.....	208	Chilcotin.....	146
Exploits.....	153	West Road (Blackwater).....	141
Naskaupi.....	152	Skeena.....	360
Camsiriktok.....	139	Bulkley (to head of Maxam Creek).....	160
Eagle.....	138	Stikine.....	335
Miramichi.....	135	Asek.....	260
Marguerite.....	130	Nass.....	236
Gander.....	102		
Flowing into Hudson Bay		Flowing into the Arctic Ocean	
Nelson (to head of Bow).....	1,600	Mackenzie (to head of Finlay).....	2,635
Saskatchewan (to head of Bow).....	1,205	Peace (to head of Finlay).....	1,195
South Saskatchewan.....	865	Finlay.....	250
Red Deer.....	385	Smoky.....	245
Bow.....	315	Little Smoky.....	185
Belly.....	180	Parsnip.....	145
North Saskatchewan.....	760	Athabasca.....	765
Red (to head of Sheyenne).....	545	Pembina.....	210
Assiniboine.....	590	Liard.....	755
Souris.....	450	South Nahanni.....	350
Qu'Appelle.....	270	Petitot.....	295
Winnipeg (to head of Firesteel).....	475	Fort Nelson.....	260
English.....	330	Hay.....	530
Churchill.....	1,000	Peel (to head of Ogilvie).....	425
Beaver.....	305	Arctic Red.....	310
Kokoosk (to head of Kaniapiskau).....	660	Slave.....	258
Kaniapiskau.....	575	Twitya.....	200
Severn (to head of Black Birch).....	610	Back.....	605
Albany (to head of Cat).....	610	Coppermine.....	525
Dubawnt.....	580	Anderson.....	430
		Horton.....	275

The outstanding lakes are of course the Great Lakes, though only part of these are in Canadian territory. The International Boundary between Canada and the United States passes through Lakes Superior, Huron, St. Clair, Erie and Ontario. Details are given in Table 4.

4.—Elevations, Areas and Depths of the Great Lakes

Lake	Elevation Above Sea-level	Length	Breadth	Maximum Depth	Total Area	Area on Canadian Side of Boundary
	ft.	miles	miles	ft.	sq. miles	sq. miles
Superior.....	602-23	383	160	1,302	31,820	11,200
Michigan (U.S.A.).....	580-77	321	118	923	22,400	—
Huron.....	580-77	247	101	750	23,010	13,675
St. Clair.....	575-30	26	24	23	460	270
Erie.....	572-40	241	57	210	9,940	5,094
Ontario.....	245-88	193	53	774	7,540	3,727

There are no tides in the Great Lakes although considerable variation in water levels is occasioned by strong winds.

Other large lakes of Canada, ranging in area from 9,000 to 12,000 sq. miles, are Lake Winnipeg, Great Slave Lake and Great Bear Lake. Apart from these, notable for size, there are innumerable lakes scattered over that major portion of Canada lying within the Canadian Shield. In an area of 6,094 sq. miles, accurately mapped, south and east of Lake Winnipeg, there are 3,000 lakes. In an area of 5,294 sq. miles, accurately mapped, southwest of Reindeer Lake in Saskatchewan, there are 7,500 lakes.

5.—Elevations and Areas of Principal Lakes by Province

NOTE.—Areas given are for mean water levels. For those reservoirs and lakes for which two elevations are given, HW means high water, LW low water, and N normal level.

Province and Lake	Elevation	Area	Province and Lake	Elevation	Area
	ft.	sq. miles		ft.	sq. miles
Newfoundland—			Quebec—continued		
Deer.....	12	24	Cabonga (reservoir) (Kaka- bonga).....	{ HW 1,185 LW 1,169 }	{ 66 18 }
Gander.....	86	49	Champlain (total, 360) part.....	95	138
Grand.....	270	140	Chibougamau.....	1,253	410
Melville.....	sea-level	1,133	Clearwater.....	790	260
Michikamau.....	1,650	566	d'Iberville.....	..	180
Red Indian.....	500	65	Evans.....	612	125
Victoria.....	790	15	Goëland.....	660	125
Nova Scotia—			Indian House.....	..	125
Bras d'Or.....	tidal	360	Kaniapiskau.....	1,850	210
New Brunswick—			Kempt.....	1,372	63
Grand.....	tidal	65	Kipawa.....	884	95
Quebec—			Lower Seal.....	860	130
Abitibi (total, 350) part.....	868	55	Manicouagan.....	..	110
Albanel.....	1,289	145	Manuan.....	1,340	100
Baskatong (reservoir).....	{ HW 732 LW 677 }	109	Maricourt.....	..	110
Bienville.....	..	392	Mattagami.....	615	88
Burnt (Brûlé).....	1,203	56	Minto.....	..	465
			Mistassini.....	1,243	840
			Nichikun.....	1,760	150
			Olga.....	635	50
			Payne.....	..	230
			Pipmakan.....	..	90
			Pletipi.....	..	138
			Quinze, des.....	{ HW 867 N 857 }	{ 55 .. }
			St. Francis, River St. Lawrence (total, 83) part.....	{ LW 151 N 153 }	{ 63 .. }
			St. John.....	321	375

5.—Elevations and Areas of Principal Lakes by Province—continued

Province and Lake	Elevation	Area	Province and Lake	Elevation	Area
	ft.	sq. miles		ft.	sq. miles
Quebec—concluded			Manitoba—concluded		
St. Louis.....	LW 65	57	Kississing.....	920	141
St. Peter.....	N 67		Manitoba.....	813	1,817
Simard.....	LW 11	130	Molson.....	838	154
Timiskaming (total, 110) part..	HW 856	59	Moose.....	873	525
Two Mountains.....	N 593	55	Namew (total, 79) part.....	725	8
Waswanipi.....	680	75	Northern Indian.....	725	150
			Nueltin (total, 336) part.....	612	76
			Oxford.....	615	155
			Paint.....	837	54
			Pelican, west of Lake Winnep- osis.....	711	80
Ontario—			Playgreen.....	862	257
Abitibi (total, 350) part.....	868	295	Red Deer, west of Lake Winni- pegosis.....	911	86
Dog.....	1,378	61	Reed.....	917	78
Eagle.....	1,192	137	Reindeer (total, 2,444) part.....	1,150	386
Erie (total, 9,940) part.....	572	5,094	St. Martin.....	798	125
Huron, including Georgian Bay (total, 23,010) part.....	581	13,675	Setting.....	737	49
Kesagami.....		90	Sipiwesk.....	598	201
La Croix (total, 55) part.....	1,181	25	Sisipuk (total, 99) part.....	915	73
Long.....	1,025	75	Southern Indian.....	835	1,060
Manitou, Kenora.....	1,215	60	Stevenson.....	849	75
Mille Lacs, Lac des.....	1,491	102	Swan.....	845	100
Minnitaki.....	1,177	72	Talbot.....	1,121	72
Nipigon.....	852	1,870	Todatara (total, 241) part.....	829	156
Nipissing.....	643	330	Walker.....	840	62
Ontario (total, 7,540) part.....	246	3,727	Waterhen.....	829	90
Rainy (total, 345) part (reser- voir).....	HW 1,108	275	Wekusko.....	840	64
Red.....	LW 1,103		Winnipeg.....	713	9,094
St. Clair (total, 460) part.....	1,157	69	Winnipegosis.....	831	2,086
St. Francis, River St. Lawrence (total, 83) part.....	LW 575	270	Woods, Lake of the (total, 1,485) ¹ part (reservoir).....	HW 1,062 LW 1,056	69
St. Joseph.....	N 151	20			
Sandy.....	1,219	187			
Seul (reservoir).....	1,190	270			
Simcoe.....	HW 1,172	530			
Stout, Berens River.....	LW 1,156				
Sturgeon, English River.....	718	280			
Superior (total, 31,820) part.....	1,039	50			
Timagami.....	1,342	110			
Timiskaming (total, 110) part.....	602	11,200			
Trout, English River.....	HW 962	90			
Trout, Severn River.....	N 593	55			
Woods, Lake of the (total, 1,485) ¹ part (reservoir).....	584	156			
	HW 1,962	215			
	LW 1,056	953			
Manitoba—			Saskatchewan—		
Athapapuskow.....	951	104	Amisk.....	964	168
Atikameg.....	855	112	Athabasca (total, 3,058) part.....	699	2,165
Beaverhill.....	651	70	Besnard.....	1,294	72
Cedar.....	829	537	Black Birch.....	1,517	54
Cormorant.....	840	134	Candle.....	1,620	56
Cross Nelson River.....	679	274	Canoe.....	1,415	78
Dauphin.....	853	200	Churchill.....	1,382	213
Dog.....	815	64	Cold (total, 136) part.....	1,756	36
Etaunei.....	28		Cree.....	1,541	350
Gods.....	585	319	Cumberland.....	871	93
Goose.....	935	53	Deschambault.....	1,072	209
Granville.....	850	181	Doré.....	1,506	248
Island.....	744	550	Ile-à-la-Crosse.....	1,379	165
Kamuchawie (total, 56) part.....	1,153	30	Kamuchawie (total, 56) part.....	1,153	26
Kipahigan (total, 59) part.....	963	29	Kipahigan (total, 59) part.....	963	30
Kiskitto.....	696	65	La Plonge.....	1,476	90
Kiskittogisu.....	709	99	La Ronge.....	1,198	450
			Last Mountain.....	1,608	89
			Loche, la.....	1,459	70
			Montreal.....	1,608	162
			Namew (total, 79) part.....	873	71
			Nemeiben.....	1,259	63
			Peter Pond.....	1,382	392
			Primrose (total, 181) part.....	1,964	173
			Quill.....	1,704	236
			Reindeer (total, 2,414) part.....	1,150	2,058
			Riou.....	915	75
			Sisipuk (total, 99) part.....	1,572	26
			Smoothstone.....	1,262	110
			Snake.....	1,130	159
			Tazin.....	1,130	156
			Wollaston.....	1,300	768

¹ Total includes 463 sq. miles in U.S.A.

5.—Elevations and Areas of Principal Lakes by Province—concluded

Province and Lake	Elevation	Area	Province and Lake	Elevation	Area
	ft.	sq. miles		ft.	sq. miles
Alberta—			Northwest Territories—		
Athabasca (total, 3,056) part....	699	893	Aberdeen.....	130	475
Beaverhill.....	2,202	80	Artillery.....	1,190	207
Biche, la.....	1,784	94	Aylmer.....	1,230	340
Buffalo.....	2,566	56	Baker.....	30	975
Calling.....	1,947	55	Clinton-Colden.....	1,225	253
Claire.....	699	545	Dubawnt.....	500	1,600
Cold (total, 136) part.....	1,756	100	Faber.....	753	163
Lesser Slave.....	1,893	461	Franklin.....	..	175
Mamawi.....	699	64	Garry.....	..	980
Peerness.....	2,267	75	Gras, de.....	1,300	345
Primrose (total, 181) part.....	1,964	8	Great Bear.....	391	12,000
Sullivan (variable).....	2,652	62	Great Slave.....	495	11,170
Utikuma.....	2,105	85	Hardisty.....	699	107
			Hottah.....	..	377
			Kaminuriak.....	320	360
			Maddougall.....	..	265
			Mackay.....	1,415	250
			Maguse.....	..	540
			Marian.....	495	90
			Martre, la.....	..	685
			Nueltin (total, 336) part.....	..	260
			Nutarawit.....	..	350
			Pelly.....	..	331
			Point.....	..	295
			Rae.....	748	74
			Schultz.....	115	110
			Thoolintoa.....	..	160
			Todatara (total, 241) part.....	..	85
			Yathkyed.....	300	890
British Columbia—			Yukon Territory—		
Adams.....	1,334	52	Aishihik.....	..	107
Atlin (total, 308) part.....	2,200	307	Atlin (total, 308) part.....	2,200	1
Babine.....	2,330	194	Kluane.....	2,500	184
Chilko.....	3,842	75	Kusawa.....	2,565	56
Eutsuk.....	2,817	96	Laberge.....	2,100	87
François.....	2,345	91	Tagish (total, 138) part.....	2,148	45
Harrison.....	34	87	Teslin (total, 161) part.....	2,250	96
Kootenay.....	1,741	168			
Kotcho (unsurveyed and estimated).....	..	90			
Lower Arrow.....	1,379	59			
Okanagan.....	1,123	136			
Ootsa.....	2,666	50			
Quesnel.....	2,375	100			
Shuswap.....	1,137	120			
Stuart.....	2,225	139			
Tagish (total, 138) part.....	2,148	93			
Takla.....	2,270	102			
Teslin (total, 161) part.....	2,250	65			
Upper Arrow.....	1,395	88			

Subsection 3.—Coastal Waters

The coast line of Canada, one of the longest of any country in the world, comprises the following estimated milages:—

Mainland—

Atlantic, 6,110; Pacific, 1,580; Hudson Strait, 1,245; Hudson Bay, 3,155; Arctic, 5,770; total, 17,860 miles.

Islands—

Atlantic, 8,680; Pacific, 3,980; Hudson Strait, 60; Hudson Bay, 2,305; Arctic, 26,785; total, 41,810 miles.

A comprehensive description of the coastal waters of Canada would require information from sciences such as oceanography, marine biology and meteorology. However, the basic factor in any study of the oceanic-continental margin is the physical relief of the sea floor and the scope of the information presented here is therefore restricted to this and a few salient features of the Atlantic, Arctic and Pacific marginal seas surrounding Canada. Further details are given in the 1947 Year Book, pp. 3-12.

Atlantic.—Along this coastal area, the sea has inundated valleys and lower parts of the Appalachian Mountains as well as those of the Canadian Shield. The submerged Continental Shelf, protruding seaward from the shore, effects the transition from continental

to oceanic conditions. This Shelf is distinguished by great width and diversity of relief. From the coast of Nova Scotia its width varies from 60 to 100 miles, from Newfoundland 120 to 50 miles (at the entrance of Hudson Strait), and northward it merges with that of the Arctic Ocean. The outer edge of the Shelf, known as the Continental Shoulder, is of varying depths of from 100 to 200 fathoms before the Shelf suddenly gives way to the steep declivity leading to abyssal depths. The over-all gradient of the Atlantic Continental Shelf is slight but the whole area is studded with shoals, plateaux, banks, ridges and islands and the coasts of Nova Scotia and Newfoundland are rugged and fringed with islets and shoals. Off Nova Scotia the 40 fathom line lies at an average of 12 miles from the shore and constitutes the danger line for coastwise shipping. The whole floor of the marginal sea appears to be traversed by channels and gullies cutting well into the Shelf.

The main topographical features of the Atlantic marginal sea floor are attributed to glacial origin but land erosion is an important factor. Eroded materials are carried seaward by rivers, ice and wind, and wave action against cliffs and shorebanks washes away enormous masses that are deposited over the surrounding sea floor. The topography of the continental sea floor is therefore constantly changing and navigation charts of Canada's eastern seaboard must be continuously revised.

Arctic.—The submerged plateau protruding from the northern coast of North America is a major part of the Great Continental (or Polar) Shelf surrounding the Arctic Ocean on which lie all the Arctic Islands of Canada, Iceland, Greenland and most of those of Europe and Asia. This Shelf develops its maximum width on the 80th meridian of west longitude where it extends from the south of James Bay to the north coast of Ellesmere Island, a distance of over 2,000 miles.

The floor topography of this continental margin is somewhat hypothetical but sufficient has been charted to indicate an abrupt break at the northern oceanward edge. This steep continental terrace borders the whole western side of the Canadian Archipelago and constitutes one of the most striking and significant features of the Polar regions. From this declivity, deep well-developed troughs cut by glaciers enter between the western group of islands. A ridge across Davis Strait on which the depth is about 200 fathoms separates this basin from the open Atlantic.

Hudson Bay and Hudson Strait bite deeply into the continent. Hudson Bay is an inland sea 250,000 sq. miles in area having an average depth of about 70 fathoms; the greatest charted depth in the centre of the Bay is 141 fathoms.

Hudson Strait separates Baffin Island from the continental coast and connects Hudson Bay with the Atlantic Ocean. It is 430 miles long and from 37 to 120 miles wide and its greatest charted depth of 481 fathoms is close inside the Atlantic entrance. Great irregularities of the sea floor are indicated but except in inshore waters few navigation hazards have been located.

Pacific.—The marginal sea of the Pacific differs strikingly from the other marine zones of Canada. The hydrography of British Columbia is characterized by bold, abrupt relief—repetition of the mountainous landscape. Numerous inlets penetrate the mountainous coast for distances of 50 to 75 miles. They are usually a mile or two in width and of considerable depth, with steep canyon-like sides. From the islet strewn coast, the Continental Shelf extends from 50 to 100 sea miles to its oceanward limit where depths of about 200 fathoms are found. There the sea floor drops rapidly to the Pacific Deep, parts of the western slopes of Vancouver Island and the Queen Charlotte Islands lying only four miles and one mile respectively from the edge of the declivity. These great detached land masses are the dominant features of the Pacific marginal sea. Along the whole coast continuous navigation is afforded through an inside passage sheltered from the sea by a protective barrier of islands. As is to be expected in a region so irregular in hydrographic relief shoals and pinnacle rocks are numerous, necessitating great caution in navigation.

Subsection 4.—Islands

The largest islands of Canada are in the north. They all experience an Arctic climate and extend from the islands in James Bay to Ellesmere Island which reaches 83°07'N. Those in the District of Franklin lie north of the mainland of Canada and are generally referred to as the Canadian Arctic Archipelago. Those in the extreme north however which lie north of the M'Clure Strait—Viscount Melville Sound—Barrow Strait—Lancaster Sound water passage are known as the Queen Elizabeth Islands.

On the west coast Vancouver Island and the Queen Charlotte Islands are the largest and the most important but the coastal waters are studded with many small rocky islands.

The Island of Newfoundland forming part of the Province of Newfoundland, the Province of Prince Edward Island, Cape Breton Island forming part of the Province of Nova Scotia, Grand Manan and Campobello Islands forming part of the Province of New Brunswick, Anticosti Island and the Magdalen group included in the Province of Quebec are the chief islands off the eastern coast.

Notable islands of the inland waters include Manitoulin Island (1,068 sq. miles in area) lying in Lake Huron, the so-called Thirty Thousand Islands of Georgian Bay and the Thousand Islands in the outlet from Lake Ontario into the St. Lawrence River.

6.—Islands of Over 2,000 Sq. Miles in Area

Island	Area	Island	Area
	sq. miles		sq. miles
Arctic Ocean—		Arctic Ocean—concluded	
Baffin.....	178,700	Bylot.....	4,200
Ellesmere.....	82,119	Prince Charles.....	3,500
Victoria.....	81,930	Cornwallis.....	2,670
Banks.....	23,230	Amund Ringnes.....	2,515
Devon.....	20,861		
Melville.....	16,141	Atlantic Ocean—	
Axel Heiberg.....	15,779	Newfoundland.....	42,734
Southampton.....	15,700	Cape Breton.....	3,970
Prince of Wales.....	12,830	Anticosti (Gulf of St. Lawrence).....	3,043
Somerset.....	9,370	Prince Edward.....	2,184
Prince Patrick.....	6,081	Pacific Ocean—	
Bathurst.....	6,041	Vancouver.....	12,408
Ellef Ringnes.....	5,139		
King William.....	4,870		

Subsection 5.—Mountains

The predominant orographical feature in Canada is the Great Cordilleran Mountain System which contains many peaks over 10,000 feet in height. The highest peak in Canada is Mount Logan in the St. Elias Mountains of Yukon Territory, which rises 19,850 feet above sea level. The highest elevations in other parts of the country are shown in Table 7.

7.—Height of Principal Mountain Peaks in each Province and Territory by Mountain Range

Province, Mountain Range and Peak	Elevation	Province, Mountain Range and Peak	Elevation
	ft.		ft.
Newfoundland		Newfoundland—continued	
Long Range—		Blue Hills of Coteau—	
Gros Morn.....	2,666	Peter Shout.....	1,690
Mount Blommedown.....	2,502	Butter Pott.....	950
Mount St. Gregory.....	2,338	Red Hill.....	700
Gros Paté.....	2,115	Central Highlands—	
Blue Mountains.....	2,085	Maintopsail.....	1,800
Table Mountain.....	1,700	Missentopsail.....	1,761

7.—Height of Principal Mountain Peaks in each Province and Territory
by Mountain Range—continued

Province, Mountain Range and Peak	Elevation	Province, Mountain Range and Peak	Elevation
Newfoundland—concluded	ft.	Saskatchewan	ft.
Torngats—		Cypress Hills (Summit).....	4,243
Cirque Mountain.....	6,500	Wood Mountain (West Summit).....	3,371
Mount Eliot.....	4,550	Wood Mountain (East Summit).....	3,347
Mount Tetrazona.....	4,510	Vermillion Hills.....	2,255
Mount Razorback.....	3,660		
Mount Sir Donald.....	1,950		
Cape Chidley.....	1,500		
Kaumajets—		Alberta	
Bishop's Mitre.....	3,500 ¹	Rockies—	
		Columbia.....	12,294
Nova Scotia		The Twins? ²	12,085
Ingonish Mountain.....	1,392	Forbes.....	11,902
Creignish Hills (at Creignish).....	850	Alberta.....	11,874
Cobequid Mountains (at E Mapleton).....	840	Assiniboine.....	11,870
North Mountain (4 miles NE of Annapolis).....	590	The Twins? ²	11,675
South Mountain (at Annapolis).....	515	Temple.....	11,636
		Kitchener.....	11,500
New Brunswick		Diadem.....	11,500
Mount Carleton.....	2,690	Lyell.....	11,495
Green River Mountain.....	1,600	Athabasca.....	11,452
Moose Mountain.....	1,490	Hungabee.....	11,447
		King Edward.....	11,400
Quebec		Stutfield.....	11,400
Appalachians—		Brazeau.....	11,386
Mount Jacques Cartier (Shickshocks).....	4,160	Victoria.....	11,355
Mount Richardson.....	3,885	Snow Dome.....	11,340
Barn Mountain.....	3,775	Joffre.....	11,315
Mount Logan.....	3,700	Murchison.....	11,300
Mount Magnetic.....	3,625	Deltaform.....	11,225
Mount Albert.....	3,550	Lefroy.....	11,220
Mount Bayfield.....	3,470	Alexandra.....	11,214
Mount Mattawa.....	3,370	Sir Douglas.....	11,174
Roundtop Mountain (Sutton Mountains).....	3,175	Woolley.....	11,170
Mount Orford.....	2,860	Lunette.....	11,150
Mount Hereford.....	2,760	Hector.....	11,135
Pinnacle Mountain.....	2,150	Clearwater.....	11,044
Mount Brome.....	1,725	Edith Cavell.....	11,033
Mount Shefford.....	1,725	Fryatt.....	11,026
		Coleman.....	11,000
Shield—		Wilson.....	11,000
Mount Tremblant (Laurentian Mountains).....	3,150	Eiffel Park.....	10,091
Mount Ste. Anne (Laurentian Mountains).....	2,625	Pinnacle Mountain.....	10,061
		Mount Rundle.....	9,665
Monteregian Hills—		Mount Eisenhower.....	9,030
Mount St. Hilaire.....	1,350	Three Sisters.....	8,840
Mount Yamaska.....	1,275	Mount Edith.....	8,370
Rougemont.....	1,250		
Mount Johnson.....	725	British Columbia	
Mount Royal.....	700	Coast Range—	
		Waddington.....	13,260
Ontario		Tiedemann.....	12,000
Niagara Escarpment (at Caledonia).....	1,550	Tatlow.....	10,050
Mount St. Patrick.....	1,383	Skihirst.....	9,660
Lion's Head Hill.....	1,034	Crown.....	4,708
Mount Nemo.....	1,000		
Dundas Mountain.....	825	Selkirk—	
Clappison.....	735	Sir Sandforth.....	11,342
		Dawson.....	11,123
Manitoba		Hasler.....	11,113
Duck Mountain.....	2,600	Delphine.....	11,076
Porcupine Mountain.....	2,500	Huber.....	11,041
Riding Mountain.....	2,000	Wheeler.....	11,023
		Selwyn.....	11,013
		Adamant.....	10,980
		Grand.....	10,832
		Mount Sir Donald (Sir Donald Range).....	10,808
		Nelson.....	10,772
		Inoclast.....	10,646
		Rogers Park (Hermit Range).....	10,536

³ One of two peaks.

**7.—Height of Principal Mountain Peaks in each Province and Territory
by Mountain Range—concluded**

Province, Mountain Range and Peak	Elevation	Territory, Mountain Range and Peak	Elevation
	ft.		ft.
British Columbia—concluded		Yukon Territory	
Rockies—		St. Elias Mountains—	
Robson.....	12,072	Logan.....	19,850
Clemenceau.....	12,001	St. Elias.....	18,008
Goodsir.....	11,676	Lucania.....	17,150
Bryce.....	11,507	King.....	17,130
Chown.....	11,500	Steele.....	16,439
Resplendent.....	11,240	Wood.....	15,880
King George.....	11,226	Vancouver.....	15,700
Consolation.....	11,200	Hubbard.....	14,950
The Helmet.....	11,160	Walsh.....	14,780
Whitehorn.....	11,101	Alverstone.....	14,500
Geikie.....	11,016	McArthur.....	14,400
Bush.....	11,000	Augusta.....	14,070
Sir Alexander.....	11,000	Strickland.....	13,818
Freshfield.....	10,945	Newton.....	13,811
Mummery.....	10,918	Cook.....	13,760
Vaux (Vermillion Range).....	10,881	Craig.....	13,250
Ball.....	10,855	Badham.....	12,625
Stephen.....	10,485	Malaspina.....	12,150
Cathedral.....	10,454	Jeannette.....	11,700
Storm.....	10,372	Baird.....	11,375
Gordon.....	10,346	Seattle.....	10,070
President.....	10,287		
Odaray.....	10,165	Northwest Territories	
Laussedat.....	10,015		
Mount Burgess.....	8,463	Franklin Mountains—	
St. Elias Mountains—		Delthore.....	6,800
Fairweather.....	15,287	Clark Mountain.....	3,000 to 4,000
Root.....	12,860	Ellesmere Area—	
Monashee—		Mount Rawlinson.....	5,000
Mount Begbie.....	8,946	Victoria Island—	
Vancouver Island Range—		Mount Pelly.....	675
Mount Albert Edward.....	6,968	Banks Island—	
Mount Arrowsmith.....	5,976	Nelson Head.....	1,000

Section 2.—Main Physical and Economic Features of the Provinces

Politically Canada is divided into ten provinces and two territories. Each of the provinces is sovereign in its own sphere, as set out in the British North America Act 1867 and its amendments, and as new provinces have been organized they have been granted political status equivalent to that of the original provinces. The Yukon and Northwest Territories, with their present boundaries, are administered by the Federal Government. The chief physical and economic features of each of the provinces and of the territories are reviewed below. Details of resources and their development are given in later chapters.

Newfoundland.—Newfoundland, once the oldest colony of the British Empire, is the newest and most easterly province of Canada. It comprises the Coast of Labrador, an area of 112,630 sq. miles on the mainland, and the Island of Newfoundland. Separating the two portions is the Strait of Belle Isle, $9\frac{1}{2}$ miles in width at its narrowest point. From Nova Scotia across Cabot Strait the distance is 70 miles. The Island is triangular in shape, the three sides each being about 320 miles long, and it has an area of 42,734 sq. miles. The climate of the Island is temperate, having cool summers and mild winters. Climatic conditions in Labrador are more severe.

The Island has low, rolling relief, with its highest elevations in the west where summits in the Long Range Mountains exceed 2,500 feet. Much of the surface is barren and rocky and has innumerable ponds and swamps. Most of the land is unsuitable for farming. The river valleys and the west coast are thickly forested and support a thriving woodpulp industry. The deeply indented coast line has many harbours providing safe anchorage for the fishing vessels that support the important fishing industry. Fishing, mainly for cod, is carried on along the coasts of Newfoundland and Labrador and on the Grand Banks. The Province of Newfoundland has extensive mineral deposits. Iron ore is mined from the huge Wabana deposits on Bell Island and production of iron ore from the large hematite deposits in the Labrador-Quebec region commenced in 1954 following completion of the 360 mile railway to connect the deposits with the port of Seven Islands. Lead-zinc-copper ore is mined at Buchans in the interior of the Island. The vast water-power resources of Labrador are in the first stages of development.

Prince Edward Island.—This, the smallest province of Canada, is about 120 miles in length with an average width of 20 miles and an area of 2,184 sq. miles. Prince Edward Island lies 10 to 20 miles off the mainland, east of New Brunswick and north of Nova Scotia, and is separated from these Provinces by Northumberland Strait.

The Island attains an altitude of about 450 feet above sea level and is almost trisected by the deep indentations of Malpeque Bay and by the mouth of the Hillsborough River, which nearly meets Tracadie Bay on the north side. Its rich, red soil and red sandstone formations are distinctive features. The climate is tempered by the surrounding waters of the Gulf of St. Lawrence and, combined with fertile soil and sheltered harbours, offers great inducements to the pursuits of agriculture and fishing. The Province is noted for its production of seed potatoes, its lobster canneries, oyster beds and fur farms.

Nova Scotia.—The Province of Nova Scotia is 381 miles in length by 50 to 105 miles in width and has an area of 21,068 sq. miles almost surrounded by the Bay of Fundy, the Atlantic Ocean and the Gulf of St. Lawrence. The mainland is connected with the Province of New Brunswick by the Isthmus of Chignecto. Cape Breton Island forms the northeast portion of the Province. It is separated from the mainland by the narrow Strait of Canso (which is now however traversed by a permanent causeway) and includes the famous saltwater Bras d'Or Lakes. On the Atlantic side the mainland is generally rocky and open to the sweep of Atlantic storms; it is extensively indented and has numerous harbours providing safety for the large fishing fleets that support the extensive fishing industry of the Province. The slopes facing the Bay of Fundy and the Gulf of St. Lawrence are sheltered from the Atlantic by low ridges not exceeding an altitude of 1,500 feet and running through the centre of the Province. In striking contrast to the rocky Atlantic side they present fertile plains and river valleys especially adapted by climate and situation to the growth of apples, pears and other fruits.

Nova Scotia is one of the leading provinces in the production of good quality bituminous coal suitable for the production of coke and excellent for domestic use and for steam-raising purposes. The chief coalfields are in the Sydney and Inverness areas on Cape Breton Island and in Pictou and Cumberland Counties on the mainland. Nova Scotia is also an important producer of salt, gypsum and barite.

New Brunswick.—New Brunswick is nearly rectangular in shape with an area of 27,985 sq. miles. The Bay of Chaleur on the north, the Gulf of St. Lawrence and Northumberland Strait on the east, the Bay of Fundy on the south, and Passamaquoddy Bay on the southwest provide the Province with a very extensive sea coast. It adjoins the United States on the west and the Province of Quebec on the north and northwest.

The surface of New Brunswick is mostly undulating, its highest elevation of 2,690 feet being in the vicinity of Grand Falls on the St. John River. In the northeastern half of the Province extensive areas of Crown lands carry valuable stands of merchantable

timber and numerous rivers provide access to the lumbering areas. The Province is watered to the west and south by the St. John River which in its course of 400 miles runs through country famed for its beauty.

Economically the forest resources are of first importance, followed by the fisheries, although large areas of rich agricultural land are found in the numerous river valleys, especially that of the lower St. John, and in the broad plains along the Bay of Fundy coast. The mineral resources of the Province include moderate amounts of coal, natural gas and petroleum and an extensive orebody with an excellent grade of lead-zinc ore is now under development southwest of Bathurst. In addition in 1954 announcement was made of the discovery of several extensive zinc-lead-copper-pyrite orebodies northwest of Newcastle.

Quebec.—Quebec, the largest province of Canada, lies east and southeast of Hudson Bay; adjoining it on the south are the United States and New Brunswick, with Ontario on the west. It has an area of 594,860 sq. miles, and most of the surface is made up of Precambrian rocks of the Canadian Shield. North of the St. Lawrence is the broken rim of the Canadian Shield, rising sharply to the Height of Land (varying from 1,000 to 3,000 feet) from which it descends gently to sea level at Hudson Bay and Hudson Strait. The Gulf of St. Lawrence and the River St. Lawrence penetrate the entire width of Quebec and divide the Eastern Townships and the Gaspé Peninsula to the south from the larger area of the Province to the north.

With the exception of the treeless zone extending north of latitude 58°, most of the Province supports a valuable tree growth varying from the mixed forests in the southwest to the coniferous forests in the east and north. In addition to extensive timber limits which form the basis of a great pulp and paper industry Quebec is the foremost of the provinces in the development of hydroelectric power and has available waterpower resources at ordinary minimum flow almost equal to those of Ontario and Manitoba combined. Quebec has made exceptionally rapid progress in the development of its mineral resources and ranks next to Ontario in annual value of mineral output. In 1953 the Province produced about 70 p.c. of the world output of asbestos and is a leading Canadian producer of copper, gold and zinc. In the Quebec-Labrador region are huge deposits of hematite from which production commenced in 1954. Also, important discoveries of iron ore have been made on the west side of Ungava Bay. At Allard Lake in eastern Quebec are large deposits of ilmenite, an ore of titanium and iron, output from which is shipped to Sorel for treatment. The fisheries in the St. Lawrence River and Gulf are important and inland waters abound in game fish. The climate and soil of the upper St. Lawrence Valley and of the Eastern Townships are well suited to general farming operations including dairying and the production of vegetables and maple products.

Ontario.—Lying between Quebec on the east and Manitoba on the west, Ontario has an area of 412,582 sq. miles. Though usually regarded as an inland province its southern boundary has a freshwater shore line of 2,362 miles on the Great Lakes and its northern limits have a saltwater shore line of 680 miles on Hudson and James Bays.

The surface of Ontario is characteristic of the Canadian Shield, except in the southern triangle lying between the lower lakes and the Ottawa River where the surface is undulating to rolling, being higher to the west of the Niagara Escarpment, northwest of which the highest elevations are obtained. The highest point in Ontario is 2,120 feet, on the promontory at the northeastern corner of Lake Superior. Northwest from the Height of Land the slope descends very gently to Hudson Bay where a large marginal strip (the Hudson Bay Lowlands) is less than 500 feet above sea level.

Ontario has long been Canada's leading producer of minerals and accounts for practically all the Canadian production of nickel and for about 82 p.c., excluding USSR, of the world output of this metal. It is a leading world source of copper and the platinum metals and mainly as a result of developments in the Steep Rock and Michipicoten areas

it is rapidly gaining prominence as a source of iron ore. Ontario also produces several of the industrial minerals, a fairly recent addition to the list being asbestos from the Matheson area. The Province produces substantial quantities of natural gas and relatively small amounts of crude petroleum.

The Great Lakes waterways system permits economic international transportation of iron ore and coal for Ontario's basic iron and steel industries. This advantage together with an abundance of natural resources has made Ontario the foremost manufacturing province of Canada. Vast forest resources in proximity to hydroelectric power form the basis of a large pulp and paper industry, while the forests of the north are a rich fur preserve.

The lands along the St. Lawrence and the lower lakes possess excellent soil and constitute a highly productive farming district catering to the needs of a large urban population. In the Niagara Peninsula fruit farming has been scientifically developed into a highly specialized industry.

Manitoba.—Manitoba, covering 246,512 sq. miles, is the most central of the provinces. Its southwestern portion together with the southern portions of Saskatchewan and Alberta constitutes the Prairie section of the Western Interior Lowlands Region—world-renowned for the quality of its wheat. Manitoba is a land of wide diversity, combining 400 miles of sea coast along its northeastern boundary bordering Hudson Bay with great areas of mixed forests, large lakes and rivers covering an area of 26,789 sq. miles, a belt of treeless prairie extending to the southeastern corner of the Province and patches of open prairie underlain by very fertile soil of great depth. The average elevation of the Province is between 500 and 1,000 feet. The greatest height—2,600 feet—is Duck Mountain, northwest of Lake Dauphin.

Most of that part of Manitoba lying north and east of Lake Winnipeg is underlain by rocks of the Canadian Shield. Within this area are numerous deposits of base metals and gold and from the mines in this area Manitoba obtains all its metal output. The largest operation is at Flin Flon where copper-zinc deposits are located. These deposits straddle the Manitoba-Saskatchewan boundary and for a number of years most of the output has come from the Saskatchewan portion. Large copper-nickel deposits are being developed at Lynn Lake.

From the southern portion of the Province Manitoba obtains its output of several non-metallic minerals. Crude petroleum was discovered in the Virden district a few years ago and a number of wells are now in production in this general area.

Saskatchewan.—Saskatchewan, 251,700 sq. miles in area, lies between Manitoba and Alberta and extends, as do those Provinces, from the International Boundary on the south to the 60th parallel of latitude on the north. The Canadian Shield extends over the northern third of the Province. This portion is abundantly watered by lakes and rivers and is generally of low relief. It is rich in timber resources and from it comes Saskatchewan's metal output which is practically all obtained from the large copper-zinc deposits straddling the Saskatchewan-Manitoba boundary. The discovery of deposits of uranium ore in the Beaverlodge area north of Lake Athabasca has brought Saskatchewan prominently to the forefront as a potential world source of this ore; production in this area commenced in 1953.

The southern two-thirds of the Province forms part of the Western Interior Lowlands Region and is generally fertile, with soil of great depth. Normally there is sufficient moisture for rapid growth and the abundant sunshine during the long summer season in this northern latitude quickly ripens the crops. This portion of Saskatchewan is rich in non-metallic minerals including fuels and is the source of all of Canada's output of sodium sulphate. During the past few years extensive exploration for crude petroleum and natural gas has been conducted here with increasingly successful results.

Alberta.—This Province covers 255,285 sq. miles and lies between Saskatchewan and British Columbia. The southern part of the Province is dry, treeless prairie, changing to the north into a zone of poplar interspersed with open prairie and giving way to mixed forests. The Canadian Shield extends only into the northeast corner of Alberta, so that excepting the fringe of mountainous country on its western border, practically the whole of the Province is underlain by arable soil of great depth. Alberta has three marked physical features—the plains, the foothills, and the portion of the Rocky Mountains within its boundaries. Overlying these is the marked difference in vegetation of the arid southwest and the more humid parklands of the remainder of the Province which merge with mixed and coniferous forest. Permanent agricultural settlement reaches its farthest northern point in Canada in the Peace River Valley of Alberta. The southern half of the Province, rising towards the west, lies at a general elevation of from 2,000 to 4,000 feet but in the northern half the slope descends until elevations of well under 1,000 feet are reached at Lake Athabasca in the northeast corner.

Alberta has the most extensive coal resources of any of the provinces and following the discovery of the Leduc oil field about 20 miles southwest of Edmonton in 1947 it is rapidly becoming a major world source of crude petroleum. Huge reserves of natural gas have been disclosed, mostly as a result of oil drilling operations, and prospects are bright for further large discoveries of petroleum and natural gas. These resources provide the basis of Alberta's industrial development. Lumbering is important in the more mountainous western parts and in the north and ranching is carried on in the dry sections of the south and west. In some southern prairie areas the quantity and distribution of the natural precipitation make permanent agriculture precarious and a number of large irrigation projects have been developed which take their water supply from rivers rising in the mountains that form the western boundary of the Province. The climate of Alberta is particularly pleasant, warm and dry generally during the summer, and during the winter the cold is moderated in the south by the chinook winds.

British Columbia.—British Columbia, 366,255 sq. miles in area, is the third largest and the most westerly province of Canada. It includes many islands of the Pacific, notably Vancouver Island and the Queen Charlotte Islands, the area of the former being 12,408 sq. miles.

The predominant feature of the Province is the parallel ranges of mountains that cover all except the northeast corner—resulting in a set of parallel linear valleys. Many of these are extremely fertile with climatic conditions well adapted to mixed agriculture or fruit growing. Generally the agricultural areas of these valleys are relatively small and broken. Two large areas in the Peace River Block and the Stuart Lake District have great agricultural possibilities. The shoreline of the Pacific is deeply indented with many inlets that are ideal for harbourage.

The wealth of the forest resources supports the lumbering and pulp and paper industries and places British Columbia first among the provinces in the production of lumber and timber. The Province excels in fishery products chiefly on account of the famous Pacific salmon. The mineral resources are remarkable for their variety and wealth. Production of lead, zinc, silver, gold and to a lesser extent copper has played an important role in the economic life of the Province since its early days and valuable coal deposits on Vancouver Island and at Crowsnest and Fernie in the interior have been worked for many years. The Province is one of the chief sources of tungsten ore in the free world and asbestos has been added recently to the list of minerals produced. Huge supplies of natural gas have been disclosed in the Peace River section of the Province. In waterpower resources, British Columbia ranks second in Canada.

The Yukon and Northwest Territories.—These vast northern territories extend over an area of 1,511,979 sq. miles from the 60th parallel of latitude to the northernmost limits. They comprise about 39 p.c. of the surface of Canada.

The Territories are areas of contrast and extremes in topographical characteristics, flora and fauna, and climate. Surface features vary from the treeless plains of the far north, the rolling hills of the Canadian Shield in the east, and the forested valley of the Mackenzie River, to some of Canada's highest mountain peaks in the west; from small streams and lakes to the longest rivers in Canada—the Mackenzie, over 2,600 miles in length, the Yukon, approximately 2,000 miles long, and Great Slave and Great Bear Lakes, both of which are over 11,000 sq. miles in area.

Since the Klondike gold rush near the close of the nineteenth century the Yukon Territory has been an important producer of placer gold. Rich deposits of lead-zinc-silver ore occur in the Mayo area from which a substantial production of these metals is obtained. Interest in the mineral possibilities of the Yukon has been increasing steadily in recent years.

Mineral production in the Northwest Territories is still relatively small considering the size of the region but the prospects for a substantial increase seem to be bright. Oil from the Norman Wells area, pitchblende products from deposits at Port Radium on the east shore of Great Bear Lake and gold from the Yellowknife area are the chief minerals produced.

The agricultural land of the Territories lies almost entirely in the extension of the central plains of the Prairie Provinces into the Mackenzie Valley and crops are confined to vegetable gardens. In the northern regions the flora and fauna have their own peculiar patterns. There are immense areas of lichens which at first sight appear to be stretches of broken greyish rock. These, along with sedges, grasses, crowberries, ground-willow, etc., provide food for the caribou and muskoxen.

The winters along the Mackenzie River are bitterly cold, averaging 16° to 25° below zero but in Yukon they are surprisingly mild and vary from 2° to 21° below zero.

Hunting of caribou, seals, walrus and whales and fishing and trapping form the principal basis of existence for the native Eskimos, providing food and hides for the manufacture of clothing, sleeping bags, etc. The introduction of reindeer by the Federal Government in the Mackenzie District of the Northwest Territories has provided an important local industry to serve the people's needs.

MAPPING AND CHARTING IN CANADA*

Maps and charts are a necessity in the development of a country. They are required for natural resources development, for defence, administration, educational and recreational purposes, and for extending trade and commerce. In fact they are required in most of the activities of present day life.

In Canada government and public demand for maps and charts has grown at such a rate that Federal Government distribution of these in 1955 was well over the million mark—or over five times that of prewar years and double that of 1947. This has been mainly owing to Canada's rapid industrial expansion, the country's large defence needs, and because, at work or at play, Canadians are a map-conscious people.

This article outlines the work of the Surveys and Mapping Branch of the Department of Mines and Technical Surveys and of the Geological Survey of Canada, together with that of the Forestry Branch of the Department of Northern Affairs and National Resources. It is planned, in future editions of the Year Book, to give more detailed descriptions of the mapping responsibilities of the agencies dealt with here as well as to cover the work of other mapping authorities.

THE DEPARTMENT OF MINES AND TECHNICAL SURVEYS

The formidable task of mapping Canada's vast area of 3,800,000 sq. miles and of charting the thousands of miles of its coast line and its inland waters is being carried out by the Federal Department of Mines and Technical Surveys. On this Department rests

* Prepared by the Department of Mines and Technical Surveys, Ottawa, except as otherwise indicated.

the responsibility of compiling topographical, geological and aeromagnetic maps, aeronautical and hydrographic charts, electoral maps and such specialized maps as those that appear in the *Canada Air Pilot*.

The Department's mapping policy is to provide as soon as possible complete topographical coverage of all of Canada on a scale of approximately 1 inch to 4 miles and coverage of the settled and developed parts on a scale of approximately 1 inch to 1 mile; geologically, to provide maps of all land areas on scales of 1 inch to 4, 8, or 16 miles.

At mid-1955 over 50 p.c. of Canada excluding the Arctic Islands had been covered topographically by published maps or maps in hand on the 4 mile scale, and almost 25 p.c. at the more detailed scale. This mapping is being carried out by the Department's Surveys and Mapping Branch. In its geological mapping the Department, through the Geological Survey of Canada, is giving top priority to reconnaissance work and to the development of more rapid reconnaissance methods. It is doing this to provide within the foreseeable future vital geological data on Canada's vast northland for use by the mineral industry and those concerned with the planning and guidance of Canada's economic development. The Department's Geographical Branch meanwhile is carrying out surveys of the physical geography of northern regions and of the economic and social geography of selected areas in southern Canada.

SURVEY METHODS

The mapping* of Canada presents many challenges to federal mapmakers, the chief being the ever present problems of great distances and of areas that are practically impossible of access. In meeting these challenges the Department has been greatly assisted in recent years by the use of the aeroplane and the helicopter, of air photography and various modern devices such as shoran trilateration—an electronic method of measuring distance—and by the development of modern photogrammetric plotting instruments for the plotting and compilation of maps from air photos.

Air Transport.—The Department uses the aeroplane to carry men and supplies to distant points and in its application of shoran trilateration. The helicopter is being used more and more in areas which, because of muskeg or mountains, are sometimes difficult or impossible to survey or map by ground parties or other methods. It is also used for geological reconnaissance mapping in Canada's northland and in mountainous areas to speed up the pace of mapping.

Since World War II aerial photography has become a necessity in mapping: in fact no mapping is attempted today without air photography. Much of the pioneer work in using and adapting aerial photography to mapping in Canada was done by the Department's Topographical Survey. Today aerial photographs are taken for the Department mostly by contract with commercial companies.

Air Photography.—The use of air photography has made the mapping of the Canadian north on a 1 inch to 4 mile scale practicable. During World War II the north was covered by trimetrogon pictures which consist of one vertical and two lateral oblique photographs taken at the same time. These pictures allowed the preparation of general maps on the scale of 1 inch to 8 miles. Such maps were satisfactory for air navigation and for reconnaissance investigations of the geology and mineral deposits, but were too limited in accuracy for more detailed studies. Consequently all areas that were covered in a preliminary way by trimetrogon photographs are now gradually being covered by vertical photography. Much of the flying is done at about 30,000 feet to give wider coverage; lower flying is required in areas where greater topographic detail is required for special purposes.

Shoran and Other Methods.—Use of shoran trilateration to measure distance has greatly facilitated the fixing of triangulation nets of points—more simply, the setting up of the framework of control for mapping—throughout the country. This control framework is necessary in order to place map sheets in their proper relationship to one another and in their proper place with reference to longitude and latitude. Moreover the elevations of these points must be determined with precision so that the surveyed altitudes of the points have true relations to one another and to the datum of sea level. Before the advent of shoran trilateration the Department of Mines and Technical Surveys erected signalling towers and by a rather slow process of observing angles between stations, built up a triangulation net in which all points of observations were accurately determined. Since World War II the Department has replaced this older method, in the north particularly, by shoran trilateration by which it is possible to measure lines 300 miles in length within an error of 20 feet.

Canada's work in shoran trilateration, which is done by the Department's Geodetic Survey, has become a model for geodetic work in all undeveloped parts of the world. Its use has allowed Canada in a few years to extend a triangulation net for accurate mapping from southern Manitoba to the Arctic and across the Arctic Islands to Labrador, where it is being joined to a net from the St. Lawrence. Because of the remoteness and isolation of most of the areas covered much of this work would have been impossible by the older methods. Shoran has also been applied to the location in relation to the ground stations of the position, at the instant of exposure, of the aeroplane taking air photographs. The establishment of the positions along certain control lines by this means provides the necessary horizontal control for maps and air charts of the scale required throughout large areas of the north.

Another electronic measuring device, the radar altimeter, measures the approximate distance from an aeroplane to the surface of the ground. The idea for this device originated in the Department of Mines and Technical Surveys and was developed by the Department with the co-operation of the National Research Council. Radar altimetry is being used in contouring air charts and is being developed for use in larger scale mapping.

Great progress has been made in using various types of plotting instruments to transfer information from air photos to a map surface and the older methods of plotting topography in the field by the use of the plane table have wholly disappeared. The use of the elaborate present day photogrammetry equipment has effected an appreciable saving both in time and cost in the field, particularly in view of the short field season and the transportation difficulties encountered in many areas in Canada, and has resulted in an increased production of maps.

THE SURVEYS AND MAPPING BRANCH

The Surveys and Mapping Branch of the Department of Mines and Technical Surveys placed 73 parties in the field in 1955: 18 of these came from the *Geodetic Survey of Canada* which provides the framework of control for all mapping carried out in Canada; 25 were from the *Topographical Survey* which surveys Canada's actual physical features and maps them with the aid of aerial photographs; 12 were from the *Legal Surveys and Aeronautical Charts Division* which carries out all land boundary surveys on Dominion Lands and produces all the necessary aeronautical charts to meet civilian and defence needs—and electoral maps as well; 18 were from the *Canadian Hydrographic Service* which charts Canada's coastal and inland waters, measures tidal currents and levels and issues charts and tables for shipping.

Highlighting the 1955 field program were two helicopter projects carried out by the Topographical Survey over areas totalling 60,000 sq. miles in New Quebec-Labrador and along the lower Mackenzie River in the Northwest Territories. In New Quebec-Labrador six topographical engineers mapped four areas totalling 24,000 sq. miles on a scale of approximately 1 inch to 1 mile. The areas comprised the western coastal region of Ungava Bay, the central portion of the peninsula east of Ungava Bay, an inland area in central northern Labrador, and a small area in the Lake Manuan district about 130 miles south of Ungava Bay. In the Northwest Territories six other topographical engineers mapped, on the same scale, a 35,000 sq. mile area straddling the lower Mackenzie River from Fort Good Hope to the Mackenzie delta. The party used two helicopters and one conventional aircraft for transportation.

In the charting of Canada's coastal and inland waters, the Canadian Hydrographic Service is replacing older techniques with newer sonic methods. In 1955 for instance it determined the positions of soundings in offshore areas south of Anticosti Island electronically rather than by direct shore observation. The Service has three vessels on the Pacific Coast and four on the Eastern Coast. During the past several years it has chartered an additional two boats for northern work. It also has several smaller boats on inland waters including the Great Lakes and Great Slave Lake. In all it uses about 16 craft in the task of making soundings for charts.

The increasing interest being shown in Canada's Far North has pointed up the need for the establishment of safe routes of travel through Canadian Arctic waters, and the seeking out and charting of possible harbours for use in connection with the development of newly discovered resources and for the safe sea supply of various stations recently established in the Arctic Islands. The keel for *The Baffin*, a \$4,000,000 ship specially designed for this type of Arctic work, was laid in the spring of 1955 and the ship is expected to be in commission in 1956.

THE GEOLOGICAL SURVEY OF CANADA

The Geological Survey of Canada sends 70 to 90 parties in to the field each year. Since the Survey started operations in 1842 it has provided a general picture of the country's geology and has mapped over 1,000,000 sq. miles of Canada's 3,800,000 sq. mile area on scales adequate to meet the requirements of mineral development.

It maps areas on different scales depending largely upon the interest and the extent of activity in the areas. It does reconnaissance mapping for instance to sort out the more favourable areas for prospecting in a region, which are then mapped on a detailed scale. Areas under development are mapped on detailed scales ranging as a rule from 1 inch to 1 mile, to 1 inch to 1,000 feet. This provides industry with the key to the geology of a particular area and thus guides it in the development of other mineral deposits. Areas being studied in this manner include the rich silver-lead Mayo area in central Yukon, the Beaverlodge uranium area in northern Saskatchewan and the extensive iron ore fields of New Quebec-Labrador.

Aerial reconnaissance mapping of Canada's northern regions now under way will soon place in the hands of the mineral industry geological information on the more favourable prospecting areas. The Survey began this reconnaissance mapping in 1952 with *Operation Keewatin* in the Northwest Territories when five geologists mapped a 57,000 sq. mile area by helicopter in the southern part of the District of Keewatin west of Hudson Bay. Use of the helicopter allowed the Survey to crowd into one field season mapping that would have taken it 20 to 25 years by the more conventional methods—and the work

was done at a much lower cost. *Operation Keewatin* showed that 25 p.c. or approximately 14,000 sq. miles of the area mapped is favourable for prospecting, a high percentage when compared with some of the better known favourable areas in more southerly regions.

In *Operation Baker* in 1954 five geologists, using helicopters, mapped 67,000 sq. miles of territory in the central part of the District of Keewatin just north of the territory covered in *Operation Keewatin*. In 1955 the Survey carried out two similar projects, *Operation Franklin* in the Queen Elizabeth Islands, the largest operation of its kind ever attempted, and *Operation Thelon* in the District of Mackenzie in the Northwest Territories.

In *Operation Franklin* seven departmental geologists, four seasonal geologists and ten student assistants trained in geology mapped 100,000 sq. miles of land on the Queen Elizabeth Islands in the District of Franklin. The entire project was airborne, the two helicopters used for the geological mapping being among the largest in commercial operation. Working from its main base at Resolute Bay the party set up subsidiary bases east of Resolute Bay, moving northward and then westward as the sea ice broke up. It examined the main geological zones of the Islands, investigated local geology for possibilities of mineral occurrences particularly of oil and gas and made detailed studies at scores of points, some within 600 miles of the North Pole. The party found numerous coal seams and several extensive areas that could be explored for oil. In *Operation Thelon* five geologists mapped a 60,000 sq. mile area in the southeast part of the District of Mackenzie in the Northwest Territories and reports on the findings in both operations are being prepared. The Survey has thus gained in a few years a considerable knowledge of the prospects for minerals in areas totalling 184,000 sq. miles north of the 60th parallel of latitude and between Hudson Bay and Great Slave Lake in the Northwest Territories, and of 100,000 sq. miles of territory in the Arctic Islands.

The Geological Survey has also met with considerable success in using helicopters for reconnaissance mapping in the rugged mountain areas of British Columbia where ground methods are impracticable. It also used helicopters to map a timbered area of Cape Breton Island in Nova Scotia in 1954, affording operational experience in the use of these machines in such areas.

The Survey does a certain amount of airborne magnetometer work each year. In this work the aeroplane is equipped with instruments that record total magnetic force of the rocks over which the aircraft is flown, even if the rocks are buried beneath heavy overburden. Areas of high magnetic intensity or 'anomalies' may indicate the presence of mineral deposits. The Geological Survey publishes the information thus secured in the form of aeromagnetic maps and these have proved to be valuable guides in the search for mineral wealth. The iron ore deposits now being mined at Marmora in southeastern Ontario were brought to light as a result of such a survey. They were covered with 100 feet of limestone which had to be removed to permit mining.

Although the Geological Survey placed fewer parties in the field in 1955 the increased use of aircraft resulted in the coverage of an area greatly in excess of that of any previous year and almost completed the geological reconnaissance of the Canadian Shield south of latitude 66°.

In its survey of the physical geography of northern regions the Geographical Branch makes extensive use of aerial photography to study, in the office, key areas so as to interpret the character of the terrain. This work, which is supplemented with ground studies to prove the correctness of the deductions, has proved particularly useful for selecting base and station locations in the construction of northern defence lines.

At the request of the Civil Defence Division of the Department of National Health and Welfare the Branch is making detailed studies of the industrial, commercial and residential areas of the major Canadian cities in relation to civil defence needs. Several of these studies have been completed.

Much has been accomplished to date in mapping and charting in Canada but the task ahead of the Department of Mines and Technical Surveys of providing the various maps and charts required in the development of Canada's wealth of natural resources is great. This is particularly true of the Canadian north which is receiving increasing attention in recent years. If the greater part of this task is to be accomplished in this generation continued emphasis must be placed on the use of the newer methods of mapping. Need for its accomplishment in the not too distant future is seen in the rapid pace of industrial development in Canada today.

THE FORESTRY BRANCH, DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES*

The application of aerial photography to mapping of forest cover in Canada has been widely developed in recent years by the Forestry Branch of the Federal Department of Northern Affairs and National Resources. Under the terms of the Canada Forestry Act 1949 the Federal Government offers financial support to the provinces to assist them in completing an inventory of their forest resources by aerial photographic methods. It is hoped thereby to prepare a national forest inventory. Data from air photographs are correlated with field work to develop new techniques of timber estimating. Research is being continued in methods for measuring tree images and tree shadows to determine heights, crown widths, canopy density and other data from photographs taken in different seasons of the year under various conditions. The use of large scale photography of sample areas is also being investigated and studies are being made in the identification of species and sub-types. Construction of suitable photogrammetric and other scientific apparatus includes those required by the forestry tri-camera method of air photography, which has been developed to provide maximum forestry information at minimum cost, and the shadow-height calculator, constructed to facilitate the determination of tree heights from shadows in air photographs.

PART II.—LAND RESOURCES AND PUBLIC LANDS

Section 1.—Land Resources

Information at present available regarding Canada's vast land resources is shown in Table 1, where the land area is classified as occupied agricultural, forested and 'other' land, the latter including urban land, road allowances, grass and brush land and all waste land such as open muskegs, swamp, or rock. Soil surveys now under way by the Department of Agriculture will make it possible in the future to estimate the amount of arable land Canada possesses and as provincial inventories are completed more information will be available regarding land now non-forested but not productive in an agricultural sense. The Forestry Branch of the Department of Northern Affairs and National Resources estimates that about 44 p.c. of the land area of Canada is forested and, according to the Census of 1951, less than 8 p.c. is classed as occupied farm land. A great part of the 1,738,986 sq. miles of 'other' land is located in the Yukon and Northwest Territories which together have a land area of 1,458,784 sq. miles. The occupied farm land in these Territories is practically nil and the forested area is estimated at 275,800 sq. miles.

* Contributed by the Forest Inventories Section, Forestry Branch, Department of Northern Affairs and National Resources.

1.—Land Area Classified as Occupied Agricultural or Forested by Province

NOTE.—Figures for occupied agricultural land were obtained from the 1951 Census; areas of forested land were compiled by Forestry Branch, Department of Northern Affairs and National Resources from estimates supplied by the Forest Service in each province and were released Feb. 22, 1956.

Description	New-found-land	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.	Canada
	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles
Occupied Agricultural Land—												
Improved—												
Crops and summerfallow.....	32	669	750	1,123	9,121	14,030	15,397	57,126	32,223	1,161	1	131,632
Pasture.....	9	309	242	381	4,196	5,055	914	2,252	1,739	536	—	15,633
Other.....	5	31	42	68	4,478	748	504	1,258	837	97	—	4,068
Unimproved—												
Forest (woodland) ²	53	541	2,884	3,194	9,173	6,020	2,832	4,602	4,477	1,807	—	35,594
Other.....	29	161	1,041	655	3,255	6,772	8,057	31,111	30,192	3,747	1	85,021
Totals, Occupied Agricultural Land.....	133	1,711	4,959	5,422	26,229	32,625	27,704	96,349	69,468	7,348	1	271,945
Forested Land—												
Softwood—												
Merchantable.....	25,734	90	4,600	4,997	114,655	55,850	9,902	14,420	7,700	63,328	35,200	336,866
Young growth.....	3,389	216	3,180	5,992	34,547	32,736	18,517	4,572	24,070	59,848	10,000	197,037
Mixed wood—	128	150	825	4,175	29,466	21,487	3,089	10,639	9,360	—	19,800	99,119
Young growth.....	986	130	480	4,983	28,990	26,749	3,649	10,769	31,430	—	3,500	111,666
Merchantable.....	32	16	1,620	1,216	4,207	4,636	3,154	8,488	3,620	—	4,700	31,689
Young growth.....	236	9	850	1,450	8,607	11,522	5,108	4,115	16,880	—	2,500	51,277
Totals, Productive Forested Land.....	30,505	611	11,555	22,783	220,772	152,980	43,509	53,003	93,060	123,176	75,700	827,654
Unproductive Forested Land ³	53,267	16	—	345	130,064	49,381	76,500	69,472	37,560	124,158	200,100	739,893
Totals, Forested Land.....	83,772	627	11,555	23,128	350,836	201,361	120,009	122,475	130,620	247,334	275,800	1,567,517
Net Productive Land⁴.....	30,580	1,781	13,630	25,011	237,822	179,585	68,381	144,750	138,051	123,717	75,700	1,064,008
Other Land⁵.....	64,147	387	7,113	2,117	155,974	105,869	74,842	5,900	53,189	106,404	1,152,984	1,758,986
Totals, Land Area⁶.....	147,991	2,184	20,743	27,473	523,860	333,835	219,723	229,182	248,800	359,279	1,458,781	3,562,857

¹ Less than one square mile.

² Included in *Forested Land*; duplication eliminated in the item *Net Productive Land*.

³ Areas incapable of producing crops of merchantable timber because of adverse climatic, soil or moisture conditions.

⁴ Includes only occupied agricultural land (less forest woodland), plus productive forested land.

⁵ Comprises all urban land, road allowances, grass and brush land and all waste land such as open muskegs, swamps and rock.

⁶ *Net Productive Land*.

Section 2.—Public Lands

In Table 2, classifying the area of Canada by tenure, items 2, 3, 4 and 5 are obtained from Federal Government sources and items 1, 6, 7 and 8 from Provincial Government sources.

2.—Area classified by Tenure (circa) 1955

Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.
	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles
1. Alienated from the Crown or in process of alienation.....	6,686	2,058	16,713	16,480	43,500	41,161
2. Federal lands other than leased lands, National Parks, Indian reserves and forest experiment stations.....	31	115	214	766	490 ¹	2,186
3. National Parks.....	—	7	390	80	²	12
4. Indian reserves.....	—	4	30	59	281	2,436
5. Federal forest experiment stations.....	—	—	—	35	7	97
6. Provincial lands other than Provincial Parks and provincial forest reserves.....	148,491	—	3,721	10,294	524,262	342,085
7. Provincial Parks.....	48	—	³	—	20,264	5,079
8. Provincial forest reserves.....	108	—	—	271	6,056	19,526
Totals, Area.....	155,364	2,184	21,068	27,985	594,860	412,582
	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles
1. Alienated from the Crown or in process of alienation.....	44,916	104,463	81,617	18,862	69	376,525
2. Federal lands other than leased lands, National Parks, Indian reserves and forest experiment stations.....	2,064	6,974	5,263	704	1,508,276 ⁴	1,527,083
3. National Parks.....	1,148	1,496	20,718 ⁴	1,671	3,625 ⁵	29,147
4. Indian reserves.....	819	1,882	2,370	1,283	9	9,173
5. Federal forest experiment stations.....	⁶	—	47	—	—	186
6. Provincial lands other than Provincial Parks and provincial forest reserves.....	192,025	135,200	136,534	295,734	—	1,788,346
7. Provincial Parks.....	2,605 ⁷	1,685	117	12,496	—	42,294
8. Provincial forest reserves.....	4,603 ⁷	—	8,619	35,505	—	74,688
Totals, Area.....	246,512⁷	251,700	255,255	366,255	1,511,979	3,845,774⁷

¹ Includes Gatineau Park (70 sq. miles) and Quebec Battlefields Park (0.36 sq. mile) which are under Federal jurisdiction but are not technically National Parks. ² Less than one square mile. ³ Includes 952,849 sq. miles set aside by Order in Council as native game preserves in which only Indians and Eskimos may hunt, as game sanctuaries in which hunting and trapping is otherwise forbidden, and as reserves for reindeer grazing, but which are not regarded as National Parks. ⁴ Includes Wood Buffalo Park (13,675 sq. miles) which, although reserved by the Federal Government, is not administered as a National Park. ⁵ That part of Wood Buffalo Park in N.W.T. ⁶ A forest experiment area of 25 sq. miles is included in National Parks figure. ⁷ Provincial Park development is carried out in two provincial forest reserves of Manitoba having a total area of 1,668 sq. miles; duplication is omitted from totals.

Subsection 1.—Federal Public Lands

Public lands under the administration of the Federal Government comprise lands in the Northwest Territories including the Arctic Archipelago and the islands in Hudson Strait, Hudson Bay and James Bay, lands in Yukon Territory, Ordnance and Admiralty Lands, National Parks and National Historic Sites, Forest Experiment Stations, Experimental Farms, Indian reserves and in general all public lands held by the several Departments of the Federal Government for various purposes connected with federal administration. The Dominion Lands Act (R.S.C. 1927, c. 113) and the Ordnance and Admiralty Lands Act (R.S.C. 1927, c. 58) were repealed in 1950, and the Territorial Lands Act (R.S.C. 1952, c. 263) and the Public Lands Grants Act (R.S.C. 1952, c. 224) were enacted to replace them and became effective June 1, 1950.

The largest areas under federal administration are the Northwest Territories and Yukon Territory amounting to 1,511,979 sq. miles or about 40 p.c. of the surface of Canada. This part of the national domain, which, with the exception of the islands in Hudson Bay and James Bay, is all north of the 60th parallel of latitude, is under the administration of the Northern Administration and Lands Branch of the Department of Northern Affairs and National Resources.

Subsection 2.—Provincial Public Lands

Public lands of Nova Scotia, New Brunswick, Quebec, Ontario and British Columbia (except the Railway Belt and Peace River Block) have been administered since Confederation by the Provincial Governments. In 1930 the Federal Government transferred the unalienated portions of the natural resources of Manitoba, Saskatchewan, Alberta and of sections of British Columbia to their respective governments and all unalienated lands in the Province of Newfoundland, except those administered by the Federal Government, became provincial public lands under the Terms of Union on Mar. 31, 1949.

All land in the Province of Prince Edward Island has been alienated except 126 sq. miles under federal administration.

Information regarding provincial public lands may be obtained from the respective provinces. (See the Directory of Sources of Official Information, Chapter XXIX, under "Lands".)

Certain areas in most of the provinces have been set aside for parks and reserves; these are dealt with in Subsection 3.

Subsection 3.—National and Provincial Parks

The future of Canada in the field of outdoor recreation is being wisely provided for by the establishment of National and Provincial Parks. Many of these Parks are easily accessible by highway, rail or air and offer every type of accommodation from camping facilities to cosy cabins and palatial hotels. A wide variety of summer and winter recreational attractions are available in mountain, lakeland, woodland and seaside areas of exceptional scenic beauty.

The areas of the Parks are given in Table 2 on p. 24; location, year of establishment, area, and main characteristics of each National Park are given in Table 3, followed by a brief description of the Provincial Parks.

National Parks.—From 1885, when the first National Park was established around the mineral hot springs at Banff, Alta., until 1954, 29 areas covering more than 29,000 sq. miles have been set aside as National Parks.

These Parks are maintained by the Federal Government for the protection of their flora, fauna and natural phenomena, for the preservation of their scenic beauty and interest and, in some, the marking of their historical significance in the building of the nation. They are supervised by the National Parks Branch, Department of Northern Affairs and National Resources and are developed and maintained in such a manner as to provide perpetual inspiration, education and healthful recreation for present and future generations.

The National Parks are Canada's greatest single tourist attraction. Accommodation in privately owned hotels, bungalow cabins, chalets, lodges and cottages is available and modern cabins have been built in several of the Parks by the National Parks Administration to afford low rental accommodation to Park visitors. Recreational facilities include heated outdoor swimming pools with dressing-room buildings; equipped camp grounds, some with trailer-park facilities; golf courses in superb scenic settings; tennis courts; bowling greens; well equipped children's playgrounds; athletic fields; horseshoe pitches; outdoor checker-boards; and, in some of the Parks, amphitheatres where plays, concerts and film shows are held in the open. For winter sports there are downhill and slalom ski courses, ski jumps, ski tows and a chairlift.

A Park warden service protects the forests and wildlife and maintains constant vigilance for the safety and comfort of visitors. Stocking and transfer of game fish are carried out extensively and successfully in order to improve angling opportunities in Park waters; fish hatcheries are operated in three of the mountain National Parks. The Scientific Management of Game Fish in Canada's National Parks is the subject of a special article on pp. 35-39 of this volume. (A special article on Game Fish in Canada's National Parks is given in the 1952-53 Year Book, pp. 34-36.) Two of the National Parks are largely big-game preserves where herds of buffalo and other animals find sanctuary.

In addition to the scenic, recreational and wild animal parks Canada has twelve national historic parks. The National Parks and Historic Sites Service of the Department of Northern Affairs and National Resources is also responsible for the marking, preservation and restoration of places of great historic interest in Canada. More than 500 such sites have been marked on the recommendation of the Historic Sites and Monuments Board of Canada.

3.—Location, Year Established, Area and Characteristics of National Parks

Park	Location	Year Estab- lished	Area	Characteristics
			sq. miles	
Scenic and Recreational Parks				
Banff.....	Western Alberta, on east slope of Rockies.	1885	2,564.0	Magnificent scenic recreational area; noted resorts, Banff and Lake Louise. Mineral hot springs; summer and winter sports. Accessible by rail and highway. Hotel and bungalow cabin accommodation. Equipped camp grounds.
Yoho.....	Eastern British Columbia, on west slope of Rockies.	1886	507.0	Lofty peaks, magnificent waterfalls, colour- ful lakes. Yoho and Kicking Horse Valleys. Accessible by rail and highway. Hotel and bungalow cabin accommo- dation. Equipped camp grounds.
Glacier.....	Southeastern British Col- umbia, on summit of the Selkirk Range.	1886	521.0	Superb alpine region, towering peaks, glaciers and forests. Accessible by rail only. Climbing, skiing, camping.
Waterton Lakes.....	Southern Alberta, adjoin- ing Glacier Park in Mon- tana, U.S.A.	1895	204.0	Canadian section, Waterton-Glacier Inter- national Peace Park. Mountain play- ground with spectacular peaks and beau- tiful lakes. Accessible by highway. Hotel and bungalow cabin accommo- dation. Equipped camp grounds.
Jasper.....	Western Alberta, on east slope of Rockies.	1907	4,200.0	Mountain playground and noted wildlife sanctuary. Majestic peaks, ice fields, beautiful lakes and famous resort, Jasper. Mineral hot springs, summer and winter sports. Accessible by rail and highway. Hotel and bungalow cabin accommo- dation. Equipped camp grounds.

3.—Location, Year Established, Area and Characteristics of National Parks—continued

Park	Location	Year Estab- lished	Area sq. miles	Characteristics
Scenic and Recreational Parks —concluded				
Mount Revelstoke.....	Southeastern British Columbia, on west slope of Selkirks.	1914	100.0	Rolling mountain-top plateau. Colourful alpine meadows. Accessible by rail and highway. Summer accommodation in Park; all-year accommodation in town of Revelstoke. Championship ski runs and ski jump. Equipped camp grounds.
St. Lawrence Islands...	In St. Lawrence River between Morrisburg and Kingston, Ont.	1914	189.4 (acres)	Mainland area and 13 islands among Thousand Islands. Recreational and camping area. Accessible by highway; by boat from nearby mainland points.
Point Pelee.....	Southern Ontario, on Lake Erie.	1918	6.0	Recreational area. Remarkable beaches, southern flora. Resting place for migratory birds. Accessible by highway. Hotel and bungalow cabin accommodation. Equipped camp grounds.
Kootenay.....	Southeastern British Columbia, on west slope of Rockies.	1920	543.0	Encloses Vermilion-Sinclair section of Banff - Windermere Highway. Broad valleys, deep canyons, mineral hot springs. Hotel and bungalow cabin accommodation. Equipped camp grounds.
Prince Albert.....	Central Saskatchewan, north of Prince Albert.	1927	1,496.0	Forested region dotted with lakes and interlaced with streams. Summer playground and recreational area. Accessible by highway. Hotel and bungalow cabin accommodation. Equipped camp grounds.
Riding Mountain.....	Southwestern Manitoba, west of Lake Winnipeg.	1929	1,148.0	Playground and wildlife sanctuary on summit of escarpment. Fine lakes. Accessible by highway. Hotel and bungalow cabin accommodation. Equipped camp grounds.
Georgian Bay Islands..	In Georgian Bay, north of Midland, Ont.	1929	5.4	Recreational and camping area. Unique pillars on Flowerpot Island. Accessible by boat from nearby mainland points. Equipped camp grounds and annual youth camps on Beausoleil Island.
Cape Breton Highlands.	Northern part of Cape Breton Island, N.S.	1936	390.0	Rugged Atlantic coast line with mountain background. Fine seascapes. Recreational opportunities. Hotel and bungalow cabin accommodation. Equipped camp grounds.
Prince Edward Island..	North shore of Prince Edward Island.	1937	2.0	Strip 25 miles long on shores of the Gulf of St. Lawrence. Recreational area, fine bathing beaches. Accessible by highway. Hotel and bungalow cabin accommodation. Equipped camp grounds.
Fundy.....	On Bay of Fundy between Moncton and Saint John in New Brunswick.	1948	79.5	Delightful recreational area. Forested region, wildlife sanctuary, rugged terrain. Bungalow cabin accommodation. Equipped camp grounds.
Wild Animal Parks				
Elk Island.....	Central Alberta, near Edmonton.	1913	75.0	Fenced preserve containing large herd of buffalo; also deer, elk and moose. Popular recreational area. Accessible by highway. Bungalow cabin accommodation and equipped camp grounds.
Wood Buffalo ¹	Partly in Alberta and partly in Northwest Territories, between Athabasca and Slave Rivers.	1922	17,300.0	Immense region of forests and open plains. Home of largest remaining herd of bison on the Continent. Other wildlife abundant.

¹ Administered by the Northern Administration and Lands Branch, Department of Northern Affairs and National Resources.

3.—Location, Year Established, Area and Characteristics of National Parks—concluded

Park	Location	Year Estab- lished	Area	Characteristics
			sq. miles	
Historic Parks				
Fort Anne.....	Nova Scotia, at Annapolis Royal.	1917	acres 31.0	Site of early Acadian settlement. Museum and well preserved earthworks.
Fort Beauséjour.....	New Brunswick, near Sackville.	1926	81.3	Site of French fort erected in middle of 18th century. Museum.
Fortress of Louisbourg.	Cape Breton Island, N.S., 25 miles from Sydney.	1941	239.5	Ruins of walled city erected by the French, 1720-40. Interesting excavations. Museum.
Port Royal.....	Port Royal, N.S., 8 miles from Annapolis Royal.	1941	20.5	Restoration of "Habitation" or first fort built in 1605 by Champlain, DeMonts and Poutrincourt.
Fort Chambly.....	Chambly, Que.....	1941	2.5	French fort on Richelieu River, first built in 1665. Museum.
Fort Lennox.....	Ile-aux-Noix, Que., near St. Johns.	1941	210.0	Site of early French fort built in 1759.
Fort Wellington.....	Prescott, Ont.....	1941	8.5	Defence post built 1812-13. Museum.
Fort Malden.....	Amherstburg, Ont.....	1941	5.0	Site of defence post built 1797-99. Museums.
Fort Prince of Wales....	Northern Manitoba, near Churchill.	1941	50.0	Ruins of fort built 1733-71 to secure control of Hudson Bay for England.
Lower Fort Garry.....	Manitoba, 20 miles north of Winnipeg.	1951	12.8	Stone-walled fort built by the Hudson's Bay Company between 1831 and 1839.
Fort Battleford.....	Saskatchewan, 4 miles south of North Battleford.	1951	36.7	North West Mounted Police post built in 1876.
Woodside.....	Kitchener, Ont.....	1954	11.0	Boyhood home of the Rt. Hon. William Lyon MacKenzie King, former Prime Minister of Canada.

Provincial Parks.—In addition to the National Parks described above, most of the provinces have established Provincial Parks. These Parks, in the same way as the National Parks, are areas of great scenic or other interest maintained for the benefit of the public. The Provincial Parks are administered by the provincial governments concerned; most have not yet reached the degree of development that marks the National Parks.

A detailed list of the Provincial Parks, showing location, year established, area and a short description of each is given in the 1954 Canada Year Book, pp. 26-30. The more important Parks in each province are mentioned briefly in the following outline.

Newfoundland.—Provincial park area in Newfoundland was increased recently from 42 sq. miles to 48 sq. miles. In addition to the 42 sq. miles on the west coast of the Province, which was set aside as Serpentine Park and is still undeveloped, 6 sq. miles on the Upper Humber River will be developed in the near future as a Provincial Park.

Quebec.—The Province of Quebec has established five Provincial Parks and four fish and game reserves. Four of the Park areas are quite extensive in size. La Vérendrye Park, 140 miles northwest of Montreal, covers an area of 4,747 sq. miles; Laurentides Park, 25 miles north of Quebec City is 3,613 sq. miles in area; Mont Tremblant, 80 miles north of Montreal, 1,223 sq. miles; and Gaspesian Park, Gaspe Peninsula, 514 sq. miles.

Mount Orford Park, situated 15 miles west of Sherbrooke, is 16 sq. miles in extent. The fish and game reserves together cover an area of more than 10,000 sq. miles—the Chibougamau Reserve, 3,400 sq. miles and the Mistassini Reserve, 5,200 sq. miles, both northwest of Lake St. John; the Kipawa Reserve, 1,000 sq. miles, in the Témiscamingue district, and the Shickshock Reserve, adjoining the Gaspeian Park, 314 sq. miles. These Parks and reserves are wilderness areas of great scenic interest, for the most part mountainous country threaded with many rivers, lakes and streams and abounding in wildlife. In all of them, except Mount Orford, excellent fishing may be found and the Parks are organized to accommodate sportsmen and tourists in camps, cottages and lodges. Mont Tremblant is a famous resort area, in both summer and winter, and is easily reached by highway the year round from Montreal. The Department of Game and Fisheries administers the Parks and reserves as well as four salmon streams which are open to anglers.

Ontario.—There are six Provincial Parks in Ontario administered by the Department of Lands and Forests, all of which are Crown game preserves. Three of these Parks—Algonquin, 105 miles west of Ottawa (2,750 sq. miles), Rondeau, 70 miles east of Windsor (8 sq. miles), and Ipperwash, 50 miles north of Chatham (109 acres)—are easily reached by car and contain facilities for camping, picnicking, swimming, dancing, fishing, hiking and boating. Boys', girls' and adults' commercial camps are established in Algonquin Park. Quetico Park, in the Rainy River district of northwestern Ontario (1,720 sq. miles), and Sibley Park, on the north shore of Lake Superior (63 sq. miles), are accessible by car but are not developed. Superior Park, about 70 miles north of Sault Ste. Marie (540 sq. miles), may be reached by boat or rail and is undeveloped.

Manitoba.—Three areas in the Province may be considered as Provincial Parks, although they are not set up as such. Whiteshell Forest Reserve (1,088 sq. miles) and Cormorant Forest Reserve (580 sq. miles) are used as recreational areas. Another area known as the Northern Recreational Area (936 sq. miles) has not as yet been designated by Order in Council as either a forest reserve or a provincial park, but it too is used as a recreational area and has been included in the total of 2,605 sq. miles designated as provincial park area in Manitoba. Recently a recreational area called Lynch Point, which covers one square mile, has also been added to the total.

Saskatchewan.—Saskatchewan has ten Provincial Parks having a total area exceeding 1,000,000 acres. Cypress Hills, Duck Mountain, Greenwater Lake, Moose Mountain, Little Manitou and Valley Centre are operated as summer resorts with chalet, lodge, cabin and trailer accommodation, and camping and picnic facilities. Recreational activities include fishing, boating, swimming, golf, tennis, dancing, baseball, hiking, horseback riding, etc., and the Parks are all well fitted with playground and beach equipment for children. In Cypress Hills Park, elk, antelope, deer and beaver are plentiful and brook and other trout abound in the streams and lakes. Heavy stands of tall, straight lodgepole pine provide forest cover in this area. In Duck Mountain, Moose Mountain and Greenwater Lake Parks, moose, elk, deer, bear and beaver are common as well as several varieties of grouse. Heavy stands of spruce, poplar and white birch provide excellent cover for wildlife and pickerel, pike and perch are prevalent in the lakes.

Alberta.—In Alberta 28 Provincial Parks have been established by proclamation or Order in Council but only 20 of them are being developed at the present time. Cypress Hills Park, an area of over 77 sq. miles situated in the southern part of the Province near the Saskatchewan border, is the largest of these Parks. The others include Aspen Beach, Beauvais Lake, Crimson Lake, Dillberry Lake, Pembina River, Gooseberry Lake, Kinbrook Island, Ma-Me-O Beach, Park Lake, Red Lodge, Rochon Sands, Saskatoon Island, Sylvan Lake, Taber, Little Bow, Woolford, Writing-on-Stone, Garner Lake and Vermilion. Picnic shelters, playground equipment and camp stoves are provided in these Parks which are maintained primarily for the recreation and enjoyment of residents of the Province.

British Columbia.—There are 69 Provincial Parks in British Columbia covering an area of about 12,496 sq. miles. These Parks are classified A, B, C and Special. Class A Parks are those considered most highly for immediate recreational development and are strongly protected. Class B Parks are areas slated for development, valuable wilderness areas or places set aside for a specific reason. Class C Parks are intended primarily for the use of local residents and are generally managed by a Board. Special Parks, of which only one remains, were created in the past by Special Acts of the Legislature. The Parks are in all stages of development and dedicated to a variety of recreational uses. There are immense wilderness areas such as Tweedsmuir and Wells Gray Parks and outstanding scenic and mountain places which include Garibaldi, Mount Robson and E. C. Manning Parks. Thousands of city dwellers throng to the ski slopes of Mount Seymour or picnic at Cultus Lake Park. The formal gardens of Peace Arch are a monument to the goodwill between two nations. Vancouver Island has a chain of small forest parks that have achieved a tremendous popularity with tourists—the best known are Little Qualicum Falls and Miracle Beach. In addition, 68 areas are included in a roadside camp-site system, many of them located in the Provincial Parks.

THE NATIONAL CAPITAL PLAN*

Ottawa, the city selected by Queen Victoria in 1857 to be the permanent seat of the legislature of the United Provinces of Upper and Lower Canada, was designated the National Capital of the Dominion upon Confederation in 1867. The community grew out of the military and construction camp which served as headquarters for the building of the Rideau Canal—a military project carried out between 1826 and 1832 which utilized the Rideau and Cataraqui Rivers to link Kingston on Lake Ontario with the Ottawa River to provide a safe interior military waterway between Lake Ontario and Montreal, by-passing the vulnerable international section of the St. Lawrence River. Originally known as Bytown, after Col. John By, R.E., builder of the Canal, the settlement prospered with the development of the lumber trade. The Act of Incorporation, changing Bytown to the City of Ottawa, was proclaimed on Jan. 1, 1855.

The city remained a self-governing municipality in the Province of Ontario after it became the National Capital and no provision was made to equip or plan it in keeping with its new status and functions. When the need for beautification and improvement became apparent, Parliament established the Ottawa Improvement Commission in 1899, (renamed the Federal District Commission in 1927), an honorary organization empowered to co-operate with the city in the development of a system of federal parks and driveways. A parks and parkway plan was prepared in 1903 by the Canadian landscape architect Frederick Todd, and his recommendations guided the Commission over the past half-century in the development of some 22 miles of scenic driveways and 900 acres of parks throughout the urban area.

There was still no over-all plan to guide the Capital's growth however and much of the natural beauty of the city's site was destroyed by industrial, railway and commercial development. A Federal Planning Commission was established by Parliament in 1913 to prepare a comprehensive plan but World War I intervened and the report was never implemented. A plan prepared in 1922 by an Ottawa city planner, the late Noulan Cauchon, was not officially adopted. In 1937 the Government retained the services of the eminent French city planner, Jacques Gréber of Paris to replan the city centre and the grounds of the government buildings. The first project, the siting of the National War Memorial in Confederation Square, was just completed when World War II broke out. For the second time the planning of the Capital was prevented by war.

THE MASTER PLAN

In 1945 Jacques Gréber was invited to return to act as consultant-in-chief on the preparation of a long range Master Plan for Ottawa and Hull as the urban centre of a National Capital District of 900 sq. miles, the boundaries of which had been defined by

* Prepared by the Federal District Commission, Ottawa.

Parliament in 1944. One-third of the District lies in the Province of Ontario and the remainder in Quebec. The co-operation of the cities of Ottawa and Hull, 28 other autonomous municipalities and the two provincial governments is essential to the successful implementation of the Plan, as there is no federal planning or administrative control over the Capital or its District.

In 1946 the Federal District Commission was appointed the federal agency to implement the Plan, amendments to the FDC Act of 1927 providing the necessary powers. The Commission was made responsible for co-ordinating federal construction and development within the National Capital District, and the location, siting and exterior design of federal buildings or other developments on Crown property within the District became subject to Commission approval. The Commission also became the recognized federal agency for negotiating and co-operating financially with the provincial and municipal authorities in the preparation and implementation of the Master Plan. Its membership, hitherto composed of Ottawa and Hull residents, was increased from ten to twenty to permit the appointment of a commissioner resident in each province of Canada so as to bring the experience and points of view of all parts of the country to bear upon the planning problems and proposals. The chairman and members serve without remuneration.

A technical planning group, the National Capital Planning Service (now a branch of the FDC), was established by Jacques Gréber, and made responsible to a National Capital Planning Committee established in 1946 by the FDC to act as the Commission's permanent honorary advisory body on the preparation and implementation of the Plan. The final report* was completed and presented to Parliament in 1949.

The Master Plan is designed to guide the development of the Capital's urban area over the next half-century and to protect the beauty of the surrounding National Capital District. Within its framework it is capable of adjustment to meet new requirements and changing conditions. The largest single project, and the key to the Plan, is the removal of the network of railway lines and their attendant industrial developments from the central area to the outskirts of Ottawa and Hull and, as part of this scheme, the conversion of the abandoned rights-of-way from rail to roadway use. Railway, highway and arterial roadway proposals are therefore treated in detail, as are proposals for governmental development of parks, parkways, sites for departmental buildings and national institutions, etc. The Plan predicts and provides for an ultimate population of about one-half million within a five mile radius of Parliament Hill and recommends that development, on a regional basis, follow the nucleus system of neighbourhoods and communities. It encourages the latter by the planned decentralization of government departmental buildings and institutions throughout the urban area. For economical urban development and other reasons the Plan would limit the population to the above figure (contained in an urban area of 44,000 acres) and to achieve this recommends surrounding the urban area with a controlled rural fringe, or green belt. The belt, three to five miles wide, is designed to mark the limit of extension of urban municipal services (and therefore dense housing development within it is not recommended); to prevent dangerous and uneconomical ribbon housing development along roads radiating out from the urban area; and to preserve the market garden areas at the urban fringe which supply the city market. Excess population would reside in towns and villages beyond the green belt but within easy commuting distance of the Capital.

The Ottawa-Hull area is treated as one physical, social and economic whole. Comprehensive zoning—a municipal responsibility—is strongly recommended to control industrial, commercial and residential development in the best interests of each; to preserve the amenities of the area; and to protect the large and growing national investment in public buildings, national institutions, parks and parkways.

* Plan for the National Capital of Canada, with Atlas. J. Gréber. Queen's Printer, Ottawa, 1950.

Developments under the Master Plan, apart from private construction, fall into four categories:—

- (1) Federal District Commission responsibilities, such as the re-location of the railways, development of the park and parkway system and some bridges;
- (2) Federal building projects, for whose construction the Department of Public Works, Crown companies or certain departments of government are responsible;
- (3) Federal-provincial-municipal projects, mainly roads and bridges and municipal services, in which the Federal District Commission is the federal planning and financial agent; and
- (4) Purely municipal works in planning and development in which the Commission and its planning staff are available for technical assistance.

PROGRESS OF THE PLAN

Railway Re-location.—This is now about two years ahead of schedule, although it is expected to take another 25 years to complete. One of the first steps taken by the FDC was the acquisition of about 3,000 acres of land at the south and east fringes of Ottawa for future rail and industrial use. A rail line was built along the Walkley Road area to link existing lines at the southern outskirts and in 1953 CNR Montreal-Winnipeg manifest freights began to use the bypass instead of crossing the centre of the Capital. Yard facilities were completed in 1955 and the CNR transferred its freight marshalling and repair and maintenance operations from the downtown Bank Street yards on the CNR crosstown tracks to the new Walkley yards. Plans were made for utilization of the right-of-way thus freed for a crosstown limited-access roadway running 19 miles across the Capital and its rural fringes from east to west, to link with Highway 17 at each end. The "Queensway", as it is known, is a federal-provincial-municipal project, and is expected to be completed by 1960.

It is planned to establish a terminal company to operate all rail facilities within the National Capital District on behalf of the CNR, CPR, and New York Central Railway. This will remove the need for duplicate rail lines and yards within the district and greatly expedite the railway re-location project.

Parks and Parkways.—A vigorous policy of land acquisition begun by the FDC in its early years before extensive suburban development increased property values to the point where it would have been almost financially impossible to carry out the program, resulted in practically all the necessary land being obtained for extensive additions to the Commission's park and parkway system. The approximately 40 miles of future parkways planned will do much to restore the beauty of the Ottawa River and Rideau River waterfronts, and at the same time add about 4,000 acres of open space to the Capital's urban area.

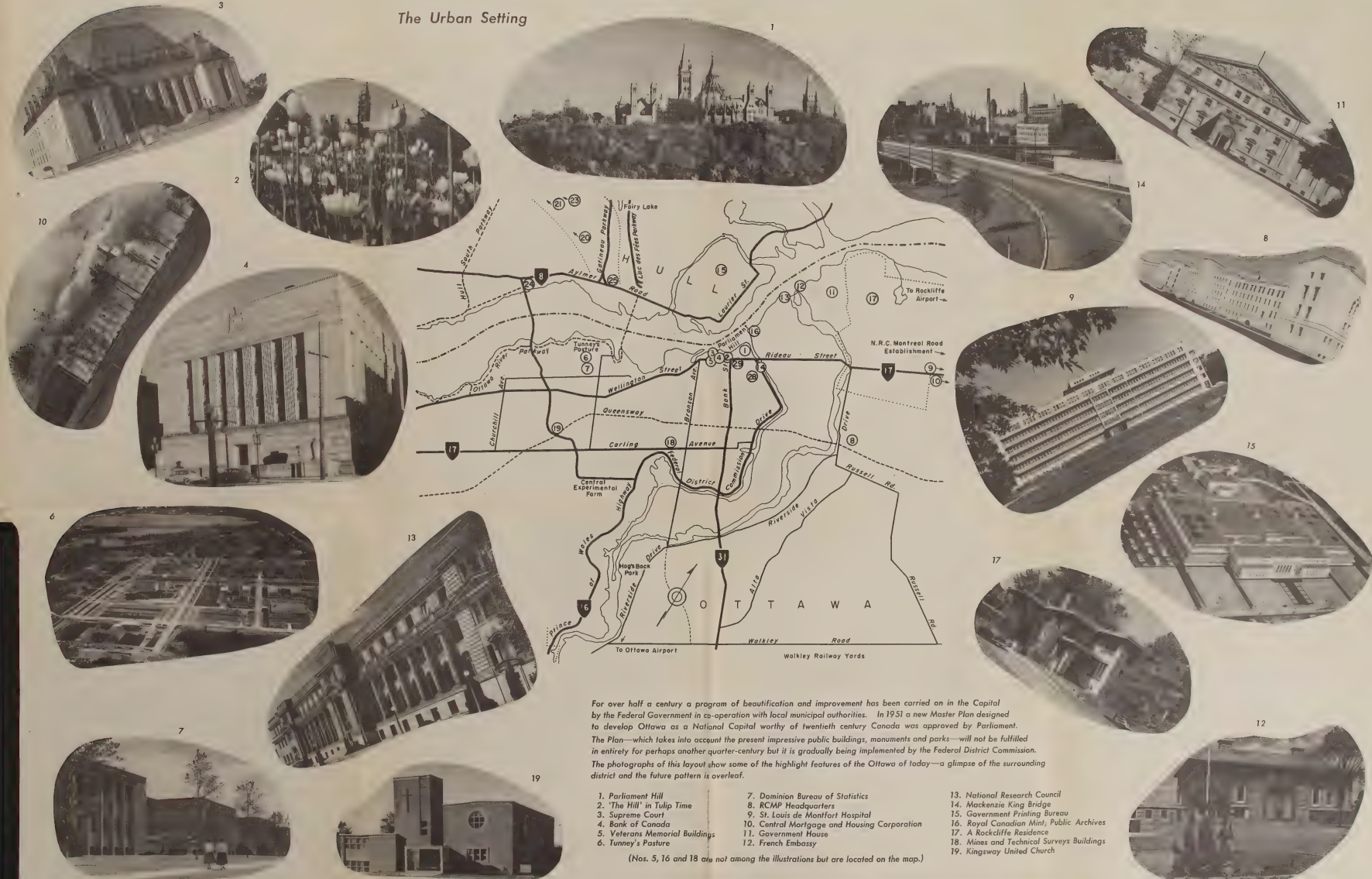
A start has been made on two new parkways in Hull—the local Fairy Lake Parkway in the western section of Hull; and Gatineau Parkway, the first two miles of which have been constructed northwest from the Aylmer Road at Val Tetreau on the Ottawa River-front, eventually to be extended into a 45 mile scenic parkway through Gatineau Park.

Some waterfront park improvements have been made in Hull but the Commission's largest single project of this nature has been the development of the 170 acre Hog's Back Park on the Rideau River and Canal in the southern section of Ottawa.

Gatineau Park.—An integral part of the National Capital Plan is Gatineau Park, situated in the beautiful hill and lake country of the Laurentians north and west of Hull. The FDC began acquiring land for the Park in 1937, and by 1955 had purchased 50,000 acres of the planned 75,000 acre area. With its bathing beaches, hiking trails, camping and trailer sites, youth camps and large and small scale picnic facilities, fishing and boating and excellent winter skiing, the Park is becoming increasingly popular as the summer and winter playground of the Capital area. In the Kingsmere section of the Park is located the 600 acre Mackenzie King Estate, bequeathed to the nation by the late Prime Minister and noted for its picturesque artificial ruins. The Commission plans extensive development of the Park in a way that will preserve the natural beauties of the area.

CANADA'S CAPITAL AND THE NATIONAL CAPITAL PLAN

The Urban Setting



For over half a century a program of beautification and improvement has been carried on in the Capital by the Federal Government in co-operation with local municipal authorities. In 1951 a new Master Plan designed to develop Ottawa as a National Capital worthy of twentieth century Canada was approved by Parliament. The Plan—which takes into account the present impressive public buildings, monuments and parks—will not be fulfilled in entirety for perhaps another quarter-century but it is gradually being implemented by the Federal District Commission. The photographs of this layout show some of the highlight features of the Ottawa of today—a glimpse of the surrounding district and the future pattern is overlaid.

1. Parliament Hill
2. The Hill in Tulip Time
3. Supreme Court
4. Bank of Canada
5. Veterans Memorial Buildings
6. Tunney's Pasture
7. Dominion Bureau of Statistics
8. RCMP Headquarters
9. St. Louis de Montfort Hospital
10. Central Mortgage and Housing Corporation
11. Government House
12. French Embassy
13. National Research Council
14. Mackenzie King Bridge
15. Government Printing Bureau
16. Royal Canadian Mint; Public Archives
17. A Rockcliffe Residence
18. Mines and Technical Surveys Buildings
19. Kingsway United Church

(Nos. 5, 16 and 18 are not among the illustrations but are located on the map.)

Information and illustrations, courtesy Walter Bowker, Director of Information, Federal District Commission, Ottawa.

The Sylvan Setting

Ottawa, Hull and neighbouring communities have a magnificent natural setting of woods, rivers and lakes, with the Laurentian highlands overlooking the area to north and northwest. To enhance this natural beauty and provide reader access to famed Gatineau Park, the National Capital Plan calls for many miles of parkways and roads and for the provision of

20. Map of Lower Gatineau Park, showing progress of parkway construction.

21. Champlain Lookout, Gatineau Parkway

22. Skiing in Gatineau Park

23. Lac Philippe



camping, sport and other facilities and improvements. Gatineau Park itself will have an eventual 75,000 acres of planned area and will provide a scenic playground and backdrop to a functionally designed capital of outstanding beauty. Some of the completed or current projects are pictured below.

24. The Quebec Approach to the Champlain Bridge over the Ottawa River

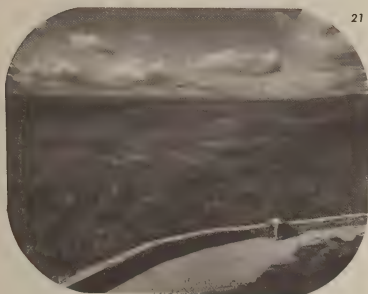
25. The Beginnings of Gatineau Parkway and (upper right) Fairy Lake Parkway in Hull



23



24



21



25



22

The Capital of Tomorrow

Canada's Capital of Tomorrow will feature easy access throughways, the construction of many new public buildings for administrative and cultural purposes, the decentralization of the public service, residential zoning, a greenbelt and other planned improvements—all in a setting of great natural beauty.

A National Auditorium, National Zoological and Botanical Gardens, a National Sports Centre and a new National Museum are recommended in the Master Plan. Glimpses of that future program are given below.

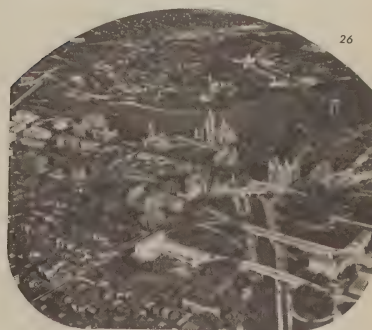
26. Model shows heart of Capital of the future

27. The Capital's metropolitan area with its protective greenbelt showing existing boundary (A) and proposed enlarged boundary (B)

28. Building proposed as interim National Gallery, pending construction of permanent home for national art collection

29. Model showing design of National Library Building, to be erected on Wellington Street

30. Forty miles of new urban parkways for the Ottawa-Hull urban area are planned by the F.D.C.



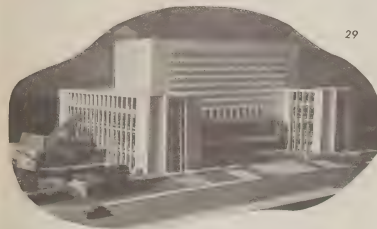
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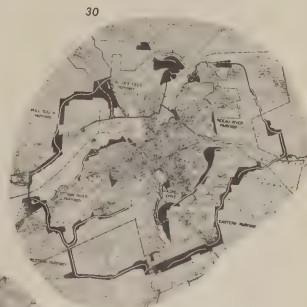
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Federal Building Projects.—Carrying out the policy of decentralizing departmental buildings where possible, as a means of avoiding increased downtown congestion and of permitting civil servants to live in residential areas near their offices, as well as for Civil Defence reasons, the Government has acquired or designated large building sites in all sections of the Capital; land now available will meet federal building needs for the foreseeable future. The FDC, as required by law, has approved and in some cases co-ordinated development of a dozen major site plans and has approved architects' plans for about 150 federally constructed buildings. Some of the sites, such as that for the new Government Printing Bureau in Hull, contain one major building. Others, such as Tunney's Pasture in west Ottawa contain a number of buildings for different branches of the Government.

Departments or Crown agencies re-located, or to be re-located within the next two or three years, include: the Department of Public Works; Department of Public Printing and Stationery; Dominion Bureau of Statistics; Department of Veterans Affairs; branches of the Department of National Health and Welfare; National Research Council; Defence Research Board; National Aeronautical Establishment; airport operations of the Department of Transport and the RCAF; Department of Mines and Technical Surveys; Post Office Department; Department of Agriculture; Atomic Energy of Canada. Largest department still to be re-located is National Defence, which is housed in wartime temporary buildings in central Cartier Square. A permanent National Art Gallery will be constructed on this site on the south edge of Confederation Park when National Defence Headquarters is re-located. In the meantime the Gallery will be re-housed temporarily in a new dual purpose building on the west side of the Park. A new institution, the National Library, will be constructed at the west end of downtown Wellington Street overlooking the Ottawa River.

The Master Plan also contains recommendations for the location and construction some time in the future of a National Auditorium, National Zoological and Botanical Gardens, National Sports Centre and a new National Museum.

Federal-Provincial-Municipal Projects.—Though federal-municipal joint projects were not uncommon prior to the advent of the National Capital Plan (the siting of the National War Memorial in Confederation Square and the widening and boulevarding of part of Elgin Street in 1939 was one of the largest; and some federal parks have been developed on city owned land leased to the FDC), since 1946 their number and importance have increased considerably. Such projects may be initiated either by the civic or federal authorities. Following are some large scale examples:—

- (1) The Mackenzie King Bridge, over the Rideau Canal in Confederation Park, first completed project in the Master Plan, was an FDC project to which Ottawa contributed 10 p.c. of the cost.
- (2) The reconstruction of Sussex Street and the building of the Colonel By Bridges over the Rideau River at Rideau Falls was a city project, to which the FDC contributed \$1,010,000.
- (3) The Dunbar Bridge extending Bronson Avenue over the Rideau River was a city project, with the FDC contributing 16.6 p.c. of the cost.
- (4) The Queensway, the east-west limited-access roadway on the CNR crosstown tracks right-of-way is a federal-provincial-municipal project, with the FDC providing most of the right-of-way, a contribution valued at about \$5,500,000. Actual construction is being carried out by the Ontario Department of Highways with the Trans-Canada Highway Authority of the Federal Department of Public Works and the City of Ottawa contributing financially.

The policy in the Master Plan of decentralizing federal departmental buildings required extension of water and sewage services in advance of actual municipal need, and the FDC is using about \$2,500,000 of the National Capital Fund to pay interest on debentures for these works over the eight to ten year period calculated as being "in advance of need". Other projects are as follows:—

- (1) The widening of Carling Avenue by the city involves a contribution of federally owned land valued at about \$500,000.
- (2) Improvements to the Chaudière crossing of the Ottawa River between Hull and the Capital were carried out by the Commission.
- (3) In Quebec the first two miles of the Fairy Lake Parkway, a local parkway serving Hull's west end, have been constructed by the FDC on land provided by the City of Hull.

Affecting many waterfront municipalities in the District is the problem of pollution of the Ottawa River by the discharge of raw sewage and industrial waste by communities along its shores. A solution for this and other problems is being sought by federal, provincial and municipal authorities concerned.

Municipal Projects.—In the purely municipal category, Ottawa and Hull have had to meet the demands for very costly services, schools and roads for new residential areas rapidly developing under the pressure of increasing population. Ottawa annexed 21,000 acres of the adjoining municipalities in 1950, and considerable progress has been made on a sewage and waterworks extension program to service the new areas.

Section 3.—Wildlife Resources and Conservation*

The Canadian Wildlife Service.—The Canadian Wildlife Service of the National Parks Branch, Department of Northern Affairs and National Resources is responsible for attending to wildlife matters coming within the jurisdiction of the Federal Government, except those within the purview of the National Museum and certain activities closely related to Indian affairs.

Its functions include acting in an advisory capacity with regard to conservation and management of wildlife in the Northwest Territories; advising and co-operating with the National Parks and Historic Sites Division regarding fish and wildlife problems in the National Parks; and administration of the Migratory Birds Convention Act in conjunction with the Royal Canadian Mounted Police and in co-operation with the provincial game authorities. The Canadian Wildlife Service also handles national and international problems relating to Canada's wildlife resources and co-operates with governmental and other agencies having similar interests and problems in Canada and elsewhere.

The Service issues permits for bird-banding in Canada and is the Canadian clearing-house for bird-banding information. It issues permits to qualified persons to take migratory birds for scientific purposes; to take and possess migratory birds for propagating purposes; to collect eiderdown; and to engage in the business of taxidermy.

The Canadian Wildlife Service plans and carries out research into the ecology, numbers, food, shelter, migration, reproduction, diseases, parasites, predators, competitors and uses of wild creatures in Canada. In certain of these investigations, e.g., the mid-winter waterfowl inventory, it works in close co-operation with United States Fish and Wildlife Service and with federal, provincial and private agencies in Canada. The Service is responsible for the establishment and administration of bird sanctuaries under the Migratory Birds Convention Act. On Dec. 31, 1954 there were 88 bird sanctuaries with a total area of more than 1,800 sq. miles.

The Limnology Section of the Service concerns itself with research leading to the maintenance and improvement of sport fishing, the control of aquatic and semi-aquatic insects, the control of algae, and with other biological problems that arise in regard to water areas in the National Parks. It also acts in an advisory capacity to the Northern Administration and Lands Branch in connection with aquatic biological matters.

A series of special articles relating to the wildlife resources of Canada are being carried in the Year Book. Articles on Migratory Bird Protection in Canada, Game Fish in Canada's National Parks, The Barren-Ground Caribou and Migratory Bird Legislation

* Prepared by the Canadian Wildlife Service, Department of Northern Affairs and National Resources, Ottawa.

were carried in the 1951, 1952-53, 1954 and 1955 editions respectively. The following article on Scientific Management of Game Fish in Canada's National Parks describes the methods by which, through research, angling opportunities are maintained and improved in the National Parks.

SCIENTIFIC MANAGEMENT OF GAME FISH IN CANADA'S NATIONAL PARKS

One of the main attractions of Canada's National Parks as resort areas is the game fish to be found in their myriad lakes and streams. Each year an increasing army of anglers find relaxation and enjoyment fishing these waters. Some of the most popular lakes were, by nature, well supplied with fish when the Parks were established but many of them were without fish stocks of any kind. Their present fruitful state is the result of a policy of management and of years of research into the problems encountered in maintaining fish stocks and improving them in lakes and streams of diverse physical conditions in all parts of the country.

The solution of problems affecting National Park waters is undertaken by two Federal Government agencies working in close co-operation. The Canadian Wildlife Service acts in an advisory capacity regarding all fish and wildlife matters in the National Parks and its officers conduct scientific investigations as and where required. Officers of the National Parks Service guided by the results of these investigations, operate hatcheries and egg collecting stations, distribute fish, collect data from anglers and perform other related duties.

BIOLOGICAL INVESTIGATIONS

Before fish are introduced into a lake or when a change in the fish population of a lake seems desirable, a biological survey of the area involved is conducted. A basic biological survey consists of obtaining as much information as possible regarding the fish present in a lake, the chemical composition of the water including the presence and concentration of dissolved gases, the amount and type of microscopic food available in the water, and the numbers and kinds of food animals present on the shores and in the bottom mud. From this basic information it is frequently possible to determine which species of fish might be most easily introduced into a given lake, which should be encouraged when several species are present, and which are most suitable in lakes heavily or lightly fished.

The first step in an investigation is to observe and record the physical properties of a lake. Soundings are made with a calibrated line attached to a weight or through the use of a small portable electronic echo sounder. In either method the soundings are made from a boat propelled across the surface in straight lines between fixed points on opposite shores. Using these soundings a contour map is prepared from which may be calculated the areas and volumes of the water strata of different depths. A temperature series is taken from the surface of the lake to the bottom at the deepest point. A common method is to suspend a reversing thermometer at the desired depth until it has assumed the temperature of the water. A release slipped down the line supporting the instrument turns it upside down, thereby breaking the mercury column so that it does not change position while being drawn to the surface through intervening layers of water. A more recently perfected method uses an electrical resistance thermometer which, when lowered to the desired depth, gives an immediate reading on a dial in the boat. This instrument can be used to take a series of temperatures without handling between observations and thus like the echo sounder saves a great deal of time.

Light is usually a necessity for fish life because aquatic plants, on which some fish feed, depend on light for their growth. In a clear lake light may penetrate to great depths but in a heavily silted glacial lake it may penetrate only a few inches. Food plants grow as poorly in a heavily silted lake as do vegetables under heavy shade. Where the plants are scarce small water animals can find little or no food and the fish feed chiefly on insects that drop into the water near the shore.

The transparency of water to light of different colours and the colour of the water itself may be measured with portable equipment. A rough determination of transparency may be made by suspending a white pie plate or similar-sized object from the end of a calibrated line, lowering it into the water and observing the depth at which the plate is just visible. Unless silt or other non-organic matter is present a low transparency usually indicates high productivity because the heavy growth of microscopic plants in a productive lake reduces the transparency of the water.

The next step of investigation is to study the water itself and the dissolved gases it contains. Chemical factors, dissolved gases particularly, may change quite rapidly after a water sample has been obtained so that immediate chemical analysis is made by the use of a small portable chemical kit carried in the field. The amount of oxygen dissolved in the water is of the same importance to fish as the amount of oxygen in the air is to human beings. Determinations of dissolved oxygen and of other chemical factors of the water are made at various depths so that the portions of the lake suitable for occupancy by game fish of various species may be located. The examination of water is often extended to include an analysis of total dissolved materials, dissolved carbon dioxide, total hardness and other factors.

Plankton, the microscopic plants and animals found in the open waters of lakes at all depths, is the food of practically all young fish and minnows and even of some large fish which can collect it efficiently. Samples of plankton are secured by allowing the water to pass through nets of fine silk or mechanical traps containing silk filters (30,000 openings per square inch) and the tiny creatures retained are preserved for laboratory examination. Shrimps, snails, small clams, immature insects and similar organisms that inhabit the bottom deposits of a lake are also the food of many fish. A box-like dredge, usually six or nine inches square, secures samples of mud from an area of bottom. This mud is washed through a screen and the live animals remaining are preserved for laboratory analysis. The number of animals thus secured from 36 sq. inches of bottom mud may vary from a few to more than 1,000.

Fish for analysis are usually secured through the use of nets or traps or other types of equipment commonly used in the commercial fishing industry. For most purposes gill nets of selected sizes set in a standard manner are used. By operating standard sets of nets under standard conditions it is possible to compare populations of fish in different bodies of water and thus secure information by relating unknown fish populations to those made familiar through previous experience. The fish are measured and weighed, their sex, condition and stomach contents examined, parasites observed and finally a number of scales are removed for use in determining the age and history of the specimen.

The type of information secured for streams is much the same as for lakes. Streams however are somewhat more difficult to deal with because their flow varies, the fish may migrate and the amount of food and shelter for fish is seriously reduced at times. Mountain streams because of their cold water, severe freshets and steep changing rocky beds, offer additional difficulties.

Some types of observations of fish and their environment cannot be made with conventional limnological equipment. Diving equipment may sometimes be useful. At great depths in cold water with light penetration reduced by silt it has been desirable to use underwater television equipment for extensive observations. The first North American use of such equipment in freshwater fisheries research was made by the limnologists of the Canadian Wildlife Service in Banff National Park in 1952. The closed circuit television system used was designed, built and operated by the National Research Council. Since this pioneer effort there has been a rapid expansion of the use of television in limnological and oceanographic research in several countries.

LABORATORY STUDIES

After the summer field investigations have been completed the laboratory takes over. Plankton samples are examined and the kinds and numbers of organisms enumerated. The weight of these organisms, though slight, is determined and, through a knowledge of the amount of water filtered to obtain the sample, the total numbers and weights of the organisms in the whole or any part of the lake may be calculated. When a series of samples is taken throughout the year calculations are made of the annual production of microscopic fish food in the lake and the rate at which it is produced. The samples of bottom animals are treated in a similar manner and the amount of animal fish food per acre of bottom determined. This may vary at any time during the summer from a few pounds to more than 30 pounds per acre. Because the crop is renewed several times each season the yearly production may amount to more than one hundred pounds per acre of bottom.

A detailed examination of preserved whole fish specimens provides information regarding life history and racial characteristics of the fish as well as a means of comparing the relative condition of fish from various water areas. An analysis of stomach contents provides an index of the food of the fish and, taken in conjunction with samples of plankton and bottom fauna from the same area, may indicate preference for certain food items or actual selection of one particular type of food from among many. Food selection by some species of fish is well marked and, since some species feed at night, it appears that senses other than sight are involved in some types of selection. An examination of the reproductive organs of the fish indicates whether it is mature or immature and if mature, whether or not its reproductive potential is normal. Internal parasites in fish are common and the kinds of parasites may have some bearing on the health and reproductive capacity of the fish.

Fish scales offer one of the most important items for laboratory study. Not only can the age of a fish and its growth rate be determined from an examination of its scales but, by careful measurement of the various year zones on the scales, it is possible to calculate the size of the fish at previous ages and thus the growth rates for various periods in its past history. Through careful examination of many fish and their food organisms and an evaluation of their physical and chemical environment it is possible to detect the ills of the fish population and to make plans to improve its future welfare.

HATCHERIES AND OTHER MANAGEMENT METHODS

Improvement of a fish population may involve improvement of the habitat to furnish more food, more shelter, more or better spawning facilities, less competition from other species of fish, or any combination of these activities. It is sometimes desirable to add additional fish to a body of water or to replace those present with members of a different species. To perform these latter functions hatcheries furnish a convenient method. The National Parks and Historic Sites Service operates three fish hatcheries for the production and distribution of fish, under desirable circumstances, in National Park waters. On occasion fish from other sources, both provincial and federal, are made available for release in National Parks.

According to the limits imposed by distance, means of transportation, requirements for fish introduction and other factors, fish for release in Park waters vary in size from unhatched eyed eggs through several sizes of fingerlings to five pound adults. Where weight is a problem, as in transportation by air, the Canadian Wildlife Service has perfected a technique of anaesthetizing fish to reduce their requirement for dissolved oxygen and then transporting them packed in crushed ice without water. The saving in weight results in a substantial saving in cost and the fish can be transported long distances with no ill effects.

Based on modern ideas of hatchery use, the present game fish policy of the National Parks Service is to carry out stocking operations only where natural reproduction is limited or absent, where a population of fish is wiped out through winter-kill or other catastrophe, or where a species more adapted to local conditions is being introduced. The introduction and maintenance of populations of exotic species are carried on only under special conditions. A program of marking fish by tagging and fin clipping makes it possible to study the history of a fish from release to capture by anglers. Through this program it is possible to demonstrate the rapid growth attained in some waters and the high return to anglers from fish stocked under certain conditions. This information permits planning for the most satisfactory use of hatchery products. An increasing proportion of fish distributed from National Parks hatcheries consists of large fingerlings and yearlings, as experience has shown excellent survival for fish of this size.

In addition to the introduction of additional stock from hatcheries other methods of maintenance and improvement are used. In areas where no spawning grounds exist, artificial spawning areas are sometimes created by dumping loads of gravel in appropriate places on the ice of a lake during winter; when the ice melts, the gravel falls to the bottom.

In some waters food is scarce and fish are crowded and stunted. The removal by poison or nets of some of the fish reduces the competition for food and permits the remaining fish to grow to a size more attractive to the angler. Another way of improving conditions for a stunted fish population is either to increase the amount or to change the form of food available in the lake. This may be done by introducing forage fish which feed on microscopic animals and are themselves eaten by game fish. Where conditions are suitable the water may be fertilized thus permitting the increased growth of microscopic plants and the animals that feed on them. Competition for food between desired game fish and undesirable coarse fish may be controlled by removing or reducing the latter thus leaving more food available for the desired species. Competition with and predation by other species may be reduced by the introduction of desirable fish of suitably large size. Production of varieties of fish with new and useful characteristics is being carried on through cross-breeding. The "Splake" or "Wendigo" developed in the National Parks by crossing eastern brook and lake trout is now in successful use in the fish cultural programs of several provinces in Canada and in states of the USA as well as in the National Parks. Work is now in progress in National Parks hatcheries on the production of other varieties of hybrid trout more adaptable to certain conditions than species or hybrids now known.

Protection of forests in the National Parks from fire is an important part of fish management. Alteration of a watershed by fire results in a more rapid runoff and more serious flooding and silt problems in streams. Removal of forest cover also permits water temperatures to rise through exposure to the sun. This may render areas unsuitable for game fish.

Angling regulations offer an excellent means of managing fish populations. A wise choice of close season, minimum legal length and daily catch limit result in the best use of the available supply of game fish and its equitable distribution among the angling public.

CREEL CENSUS

Although much information may be secured regarding fish, their food, their reproduction and other phases of their life histories through field and laboratory examination of them and of the water areas in which they are found, it cannot always be predicted what size or species of fish an angler will take from a lake or even that he will catch anything. Because the game fish populations in National Parks waters are largely used for public enjoyment and because a knowledge of the fish removed from them is of vital importance in the maintenance of the fish populations, recourse is made to a creel census to secure data regarding the fish taken by anglers.

The creel census is based on voluntary completion by anglers of special cards designed to secure data regarding the numbers, species and lengths of fish caught, the type of lure used, the time of day and, most important, the time in hours and minutes required for the capture. Each angler is requested to complete a return for each day's fishing. Returns are regarded as confidential in order to overcome the traditional reluctance of an angler to report a small or nil catch. During 1954 creel census cards were returned reporting the capture of more than 50,000 fish from 125 lakes and 84 streams in 11 National Parks.

An analysis of this information and its correlation with corresponding data for earlier years is of inestimable value to fish management policy and practice. If the creel census data indicate that too large a proportion of the angling catch consists of immature fish, then steps may be taken to protect the desired portion of the fish population by changing the regulations. If the fishing effort or number of hours required to capture a fish becomes progressively greater for a given species during succeeding years, this is considered an indication of imminent depletion of this species and steps are taken to check it.

The maintenance of good angling in the National Parks of Canada depends largely on the co-operation of the anglers. Experience has shown that this co-operation is always freely available from those who understand the purposes for which this great natural heritage is maintained.

PART III.—CLIMATE AND TIME ZONES

Section 1.—Climate

A comprehensive discussion of the climatic regions of Canada is available in the 1948-49 Year Book, pp. 41-62, and detailed tabulations of climatic factors covering 36 meteorological stations located mostly at well known or populous centres are given in the 1950 Year Book, pp. 35-70. Other articles appearing in previous editions are listed under "Climate and Meteorology" in Chapter XXIX of this volume.

Table 1 gives long term temperature and precipitation data for 35 representative Canadian stations; Tables 2 and 3 provide monthly temperature and precipitation data during 1954 for these same stations. These are mostly well-sited or populous places with climates fairly representative of a considerable area. Each of the figures given under "Temperatures" are of course averages obtained over the period of observation. Under "Precipitation", in calculating the annual total, inches of rain is considered the total depth of water accumulated on a hypothetical horizontal impervious surface without evaporation. Similarly the depth of snow given is that which falls on a horizontal surface without settling, melting or sublimation. Because the depth of water obtained from melting newly fallen snow is roughly one-tenth of the depth of the snow, the total precipitation is obtained by adding together the total rainfall and one-tenth of the depth of the newly fallen snow. A day with rain is, for the purpose of these tables, one on which 1/100 of an inch or more falls and a day with snow is one with at least 1/10 of an inch of newly fallen snow. Whenever the temperature four feet above the ground falls to 32°F. or lower the day is counted as a day with frost. The average date of the last spring frost and of the first frost in autumn marks the approximate period continuously free from frost.

1.—Long Term Temperature and Precipitation Data for 35 Representative Stations

Station	Height Above Sea ft.	Length of Record yrs.	TEMPERATURES (° Fahrenheit)				Heating Factor	Killing Frost Average Dates		PRECIPITATION (inches)					Number of Days of Precipitation
			Annual	Jan.	July	Highest on Record 1921-50	Lowest on Record 1921-50			Annual Total	Annual Snow	Jan.	Apr.	July	
Gander, Nfld.	482	14	39.2	19.0	62.1	91	-16	8,767	June 1	39.50	119.2	2.63	2.57	3.61	129
St. John's (Torbay), Nfld.	463	10	40.6	23.9	59.4	86	-10	8,876	June 2	59.99	141.3	5.22	5.02	3.97	147
Goose Bay, Nfld.	144	30	42.5	0.0	61.2	100	-35	12,148	June 10	29.05	114.1	1.93	1.76	3.28	208
Charlottetown, P.E.I.	186	30	42.5	18.8	66.6	98	-23	8,263	May 16	43.13	142.7	4.09	2.83	2.42	119
Annapolis Royal, N.S.	10	30	44.4	24.4	65.3	91	-13	7,665	May 20	41.35	68.0	4.01	2.85	3.86	110
Halifax, N.S.	83	30	44.4	24.4	65.0	94	-21	7,350	May 13	54.26	64.1	5.16	4.48	3.15	140
Sydney, N.S.	117	30	42.8	22.7	65.0	98	-23	7,897	May 29	50.61	96.6	4.86	3.77	3.62	156
Chatham, N.B.	192	26	39.7	12.4	66.1	102	-33	8,883	May 21	36.33	84.2	2.59	2.78	3.10	151
Fredericton, N.B.	164	30	41.2	14.2	66.6	102	-33	8,863	May 20	47.90	83.4	3.18	3.37	3.86	149
Saint John, N.B.	119	30	42.0	19.8	61.8	93	-21	8,081	May 4	41.69	88.0	4.55	3.62	3.28	154
Arvida, Que.	375	19	36.6	4.2	65.2	95	-42	10,585	May 20	38.77	115.7	2.87	2.53	4.17	112
Lemoxville, Que.	498	30	41.6	13.2	66.6	99	-48	8,996	May 31	40.11	96.5	3.37	3.01	4.09	176
Montreal, Que.	187	30	43.7	15.4	70.4	97	-29	8,059	Apr. 28	41.80	100.8	3.54	3.37	3.40	180
Fort William, Ont.	644	30	36.8	7.6	63.4	91	-38	10,045	June 4	27.62	108.8	1.67	2.81	2.52	164
Kapuskasing, Ont.	782	13	33.4	-0.1	63.2	101	-53	11,374	June 14	34.61	124.0	2.40	2.03	3.26	182
Ottawa, Ont.	260	30	41.6	12.0	68.6	102	-35	8,674	May 11	34.89	80.5	2.67	2.62	3.63	183
St. Catharines, Ont.	347	20	43.4	26.7	71.7	104	-12	6,607	May 5	30.72	47.1	2.54	2.47	2.38	136
Toronto, Ont.	379	30	47.0	24.5	70.8	105	-22	7,196	May 3	30.94	54.6	2.72	2.57	2.33	132
Churchill, Man.	43	21	18.8	-16.4	55.0	90	-90	15,735	June 28	14.41	45.1	0.39	1.21	2.51	109
The Pas, Man.	890	29	31.4	-6.2	64.9	100	-94	12,160	Aug. 30	16.48	53.2	0.77	0.63	1.53	101
Winnipeg, Man.	786	30	36.6	0.6	68.3	103	-64	10,801	May 27	19.72	48.1	0.63	1.26	2.32	52
Prince Albert, Sask.	1,414	30	34.0	-1.3	65.3	108	-96	11,337	Sept. 15	15.60	48.1	0.80	1.08	1.41	67
Regina, Sask.	1,884	30	36.7	2.3	66.6	110	-90	10,650	May 30	18.60	48.1	0.65	0.81	0.92	118
Beaverlodge, Alta.	2,500	30	36.1	9.7	60.2	98	-53	10,950	June 3	19.92	68.2	1.19	0.87	2.15	100
Calgary, Alta.	3,540	30	39.0	15.8	62.4	97	-53	8,127	June 30	17.97	58.0	1.19	0.87	2.31	100
Edmonton, Alta.	2,219	30	36.8	7.7	62.9	99	-51	8,495	June 29	17.63	52.9	0.90	1.10	0.84	76
Medicine Hat, Alta.	2,365	30	42.2	13.7	70.2	106	-31	8,495	May 15	17.63	52.9	0.90	1.10	0.84	57
Crabbrook, B.C.	2,013	30	41.2	15.6	64.4	102	-42	8,760	June 10	13.55	41.6	0.72	0.99	1.38	100
Nelson, B.C.	2,055	30	43.8	24.7	67.2	102	-17	7,978	June 10	14.46	54.5	1.58	0.61	0.85	69
Penticton, B.C.	2,071	30	40.8	26.7	68.7	105	-17	7,278	May 17	28.52	90.0	2.48	1.59	1.15	106
Prince George, B.C.	2,258	30	38.0	14.6	68.7	105	-48	8,546	Aug. 7	25.4	90.0	0.93	0.83	0.78	131
Victoria, B.C.	2,268	30	50.3	38.2	69.0	105	-58	4,897	Aug. 27	66.6	100.0	1.82	0.96	1.15	102
Dawson, Y.T.	1,062	30	23.2	-16.0	58.8	93	-73	14,670	Dec. 28	26.18	10.1	4.08	1.17	0.40	144
Fort McMurray, N.W.T.	13	29	11.7	-19.0	58.0	87	-89	13,800	Aug. 21	10.87	52.5	0.88	1.63	1.72	117
Fort Good Hope, N.W.T.	214	29	17.8	-21.0	59.8	94	-89	17,520	Aug. 11	12.18	57.3	0.72	0.50	1.55	103

¹ Day-degrees represent the difference in temperature between the mean temperature of the air and the temperature of 65°F. multiplied by the number of days during which the outside temperature was lower than that figure, computed for the period Sept. 1 to May 31.

² Total is number of days rainfall plus number of days snowfall.

Fuel consumption for heating purposes will be proportional to these totals.

2.—Temperature Data for 35 Weather Stations by Month 1954

Station	Monthly Mean Temperature (Fahrenheit)												Annual Mean Temperature	Tem- perature Differ- ence from Normal for Year	Annual Temperature Extremes	
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.			Highest	Lowest
Gander, Nfld.	17-6	26-2	27-2	32-2	42-5	55-6	62-8	57-0	54-1	42-1	35-6	30-7	40-2	1-0	88-0	-6-0
St. John's (Torbay), Nfld.	23-4	30-3	29-8	32-4	43-2	53-0	61-2	58-0	52-5	42-8	37-7	33-0	41-4	1-1	90-2	2-6
Goose Bay, Nfld.	-7-1	10-2	20-2	21-7	40-7	57-6	59-4	56-2	50-6	37-7	21-8	12-2	31-8	0-2	83-2	-30-4
Charlottetown, P.E.I.	18-2	26-3	27-8	36-0	46-9	58-8	64-6	61-8	56-0	47-9	37-6	31-0	42-7	0-5	81-1	-12-4
Annapolis Royal, N.S.	23-0	30-7	31-8	41-2	49-9	60-4	64-8	62-5	56-8	50-9	41-2	34-5	45-6	0-8	82-0	-6-0
Halifax, N.S.	25-0	32-2	33-6	40-6	46-6	55-8	64-1	64-4	59-6	52-1	42-4	36-3	46-6	2-2	86-6	-4-0
Sydney, N.S.	24-2	28-7	29-2	34-5	46-6	59-2	64-1	61-6	56-3	48-0	39-8	34-7	43-6	0-8	90-0	-6-8
Chatham, N.B.	12-0	24-8	26-8	37-6	47-2	59-0	63-5	62-2	54-0	46-2	35-6	25-1	41-2	0-3	89-1	-19-8
Fredericton, N.B.	14-4	25-0	28-0	39-0	50-2	60-6	64-0	62-0	55-0	47-9	36-0	24-0	42-2	1-0	91-0	-19-0
Saint John, N.B.	17-4	26-3	29-6	40-0	49-2	59-0	61-6	61-8	56-0	49-8	39-0	30-2	43-3	1-3	82-0	-13-9
Arvida, Que.	-3-6	17-0	21-4	35-2	49-0	61-2	62-9	60-7	53-8	44-2	32-4	15-0	37-4	0-8	91-0	-38-0
Lennoxville, Que.	8-8	21-8	25-8	39-8	51-2	62-8	63-9	61-4	54-2	48-5	34-9	19-8	41-1	-0-5	90-0	-36-0
Montreal, Que.	10-5	25-0	28-6	43-6	54-8	65-3	68-0	66-6	57-3	51-3	37-8	22-5	44-3	0-6	86-3	-16-0
Fort William, Ont.	-0-1	19-4	18-6	33-4	42-4	58-9	63-7	61-6	50-8	41-7	32-4	15-6	36-5	-0-3	90-2	-31-0
Kapuskasing, Ont.	-6-2	15-6	11-2	31-4	44-2	60-6	60-0	57-8	48-6	39-4	27-8	9-2	33-3	-0-1	88-9	-36-4
Ottawa, Ont.	6-6	22-2	24-7	41-2	53-1	64-4	66-3	64-4	55-4	48-6	35-6	18-4	41-7	-0-3	89-9	-21-2
St. Catharines, Ont.	23-6	32-5	32-8	44-8	53-8	66-9	69-2	67-0	62-2	53-6	40-5	29-4	48-0	-0-4	93-0	-1-0
Toronto, Ont.	21-3	32-8	32-0	46-1	54-4	67-6	70-7	68-1	61-7	53-6	41-4	28-8	48-2	1-2	93-3	-5-7
Churchill, Man.	-25-4	-9-0	-4-8	9-4	27-6	45-4	58-1	53-4	44-2	32-2	14-4	-1-6	20-3	1-5	90-0	-47-2
The Pas, Man.	-17-8	13-0	9-6	21-4	42-2	56-6	64-7	59-1	49-2	38-3	26-3	12-7	31-3	-0-1	84-5	-48-6
Winnipeg, Man.	-9-6	19-4	16-9	33-0	46-3	61-0	67-8	63-4	53-4	42-4	30-9	16-9	36-8	0-2	89-0	-36-8
Prince Albert, Sask.	-17-0	15-8	8-7	20-8	45-2	55-2	63-2	58-7	49-0	39-8	30-1	16-6	32-2	-1-8	89-3	-53-7
Regina, Sask.	-8-4	25-4	18-5	30-4	46-8	56-6	66-2	61-8	51-1	41-4	32-9	20-7	37-0	1-0	91-8	-48-4
Beaverlodge, Alta.	-11-4	18-0	19-8	21-3	48-1	54-2	58-6	57-2	48-8	40-2	32-6	21-0	34-0	-2-1	84-0	-44-4
Calgary, Alta.	-3-0	30-0	19-9	25-2	46-8	52-8	60-6	56-7	49-2	41-6	33-8	28-4	37-2	-1-8	87-2	-40-0
Edmonton, Alta.	-7-6	23-0	32-6	26-8	48-6	55-1	62-6	57-8	51-7	42-0	34-8	24-3	36-7	-0-1	89-4	-34-7
Medicine Hat, Alta.	-2-1	34-0	21-8	32-3	52-9	57-1	63-0	64-4	54-7	45-2	41-7	29-4	41-6	-0-6	89-5	-44-4
Granbrook, B.C.	11-1	29-1	25-9	37-2	51-2	53-3	62-6	59-6	51-6	40-0	36-2	24-5	40-2	-1-0	87-0	-36-0
Nelson, B.C.	24-3	35-8	33-2	44-0	56-1	58-9	62-0	57-4	57-4	45-2	41-5	31-2	46-4	0-6	92-0	-6-0
Penticton, B.C.	21-6	32-6	30-7	41-8	53-5	58-2	64-8	62-0	57-8	43-4	44-2	33-2	47-1	-0-9	90-2	-2-7
Prince George, B.C.	24-7	34-3	31-7	39-1	52-6	57-4	63-6	59-8	53-8	39-4	38-4	23-9	37-2	-1-7	82-6	-42-0
Victoria, B.C.	36-4	43-0	42-6	46-4	58-6	62-4	67-5	65-0	59-0	48-8	48-8	42-4	49-3	-0-9	93-0	-17-1
Dawson, Y.T.	-23-8	-21-1	9-0	19-2	46-8	55-9	59-6	56-3	52-0	36-8	15-9	-18-2	22-0	-1-8	81-0	-57-1
Copeland, N.W.T.	-22-6	-20-6	-7-8	-6-4	20-0	35-1	47-9	50-3	36-0	18-0	1-2	-19-9	17-4	0-3	82-8	-49-8
Fort Good Hope, N.W.T.	-32-8	-18-4	1-2	1-3	36-1	53-6	60-6	60-7	40-6	24-4	1-2	-19-9	17-4	-0-4	93-0	-61-0

3.—Precipitation Data for 35 Weather Stations by Month 1954

Station	Monthly Precipitation (inches)												Annual Precipitation (inches)		Total Inches Precipitation Differ- ence from Normal for Year	
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Rain- fall	Snow- fall		
Gander, Nfld.	3.99	3.24	3.52	1.07	3.95	4.28	4.41	3.24	0.77	5.41	3.72	4.45	27.89	141.6	42.05	2.55
St. John's (Torbay), Nfld.	8.08	3.89	7.87	2.84	5.54	3.30	3.33	3.64	3.00	4.28	3.36	7.47	40.04	165.6	56.60	-2.10
Goose Bay, Nfld.	3.04	2.02	4.68	2.74	1.84	3.44	2.39	3.62	4.91	2.28	2.82	4.02	37.19	184.0	37.70	9.04
Charlottetown, P.E.I.	7.88	6.30	3.68	2.16	3.52	1.98	5.24	2.43	2.93	4.11	4.14	6.08	37.19	132.6	50.45	8.26
Annapolis Royal, N.S.	9.23	7.67	3.78	3.70	3.04	6.67	3.97	2.43	2.77	6.81	4.40	7.55	48.99	137.0	62.69	21.34
Halifax, N.S.	7.26	8.07	5.17	3.05	1.93	1.93	4.97	3.35	1.80	5.43	3.86	5.05	46.06	99.1	55.97	1.71
Sydney, N.S.	8.48	5.22	3.89	1.83	5.21	1.11	5.23	6.13	1.61	5.29	4.82	5.41	42.35	118.8	54.23	3.62
Chatham, N.B.	5.43	6.97	1.71	2.55	3.44	3.52	2.73	3.39	4.30	4.88	2.78	5.12	34.83	119.9	46.82	6.67
Fredericton, N.B.	5.33	4.68	3.34	4.85	3.81	6.44	3.20	4.47	4.00	7.65	3.33	5.11	43.30	119.7	55.27	13.37
Saint John, N.B.	7.91	7.73	4.80	4.75	5.07	7.49	4.35	3.09	3.91	7.65	5.62	8.13	57.44	130.6	70.50	23.11
Arvida, Que.	2.42	1.40	1.53	2.23	3.74	2.85	3.90	4.47	4.93	2.51	3.83	4.10	26.59	113.2	37.91	-0.86
Lemoxville, Que.	3.46	4.48	2.46	3.73	3.65	7.62	3.50	4.14	5.54	6.17	2.49	5.47	40.61	120.7	52.71	12.60
Montreal, Que.	3.71	4.96	2.77	5.03	5.03	4.14	1.89	4.23	5.62	3.67	4.15	6.16	37.70	136.6	51.36	9.56
Fort William, Ont.	4.20	1.71	0.94	4.23	3.78	2.88	1.18	3.08	2.78	1.50	2.59	0.83	18.29	114.1	29.70	2.08
Kapuskasing, Ont.	2.53	1.71	4.26	1.28	2.57	4.52	4.00	4.57	5.12	5.03	2.32	0.93	22.45	143.9	36.81	2.33
Ottawa, Ont.	3.30	3.34	3.07	4.58	3.23	3.91	1.60	3.72	4.81	2.59	4.33	5.29	30.24	135.3	43.77	10.29
St. Catharines, Ont.	2.29	3.45	4.16	3.86	1.40	2.56	1.03	5.79	2.26	6.42	2.57	3.21	34.48	45.2	39.00	8.28
Toronto, Ont.	2.33	2.46	3.56	4.08	0.86	3.39	0.29	3.82	1.93	6.10	1.94	2.43	28.02	51.7	33.19	2.25
Churchill, Man.	0.32	0.78	0.20	1.38	1.64	1.47	0.95	1.38	0.52	1.77	1.15	1.13	5.49	72.0	12.69	2.32
The Pas, Man.	1.25	0.46	0.12	2.02	1.99	2.64	3.64	3.10	1.53	1.24	1.65	0.50	13.61	60.3	19.64	2.66
Winnipeg, Man.	1.60	0.71	0.42	2.76	2.18	5.64	1.73	3.32	4.58	1.61	1.30	0.15	20.94	50.6	26.00	6.28
Prince Albert, Sask.	1.42	0.91	0.36	1.83	2.87	3.06	4.15	5.84	2.00	0.75	1.04	0.25	17.80	66.8	23.43	8.88
Regina, Sask.	1.45	0.87	0.42	1.19	3.25	3.31	3.90	4.67	3.45	0.66	0.41	0.16	19.86	38.8	22.74	8.65
Beaverlodge, Alta.	1.12	1.84	1.19	0.77	1.97	2.48	1.36	4.07	2.10	0.92	0.77	1.14	11.40	71.9	18.99	1.27
Calgary, Alta.	1.74	0.99	1.45	1.89	6.28	3.33	0.79	9.38	1.12	0.18	0.13	0.06	16.85	61.9	23.04	3.37
Edmonton, Alta.	0.52	0.36	1.10	1.02	3.22	3.00	3.92	5.64	0.40	0.37	0.20	0.20	16.50	33.9	19.89	2.26
Medicine Hat, Alta.	1.84	0.42	2.35	3.23	1.27	2.29	1.15	2.97	2.71	0.07	0.26	0.39	11.08	78.7	18.95	5.40
Cranbrook, B.C.	3.99	1.61	1.09	1.13	0.68	0.75	1.27	2.54	1.28	1.01	0.51	0.82	9.09	75.9	16.68	2.22
Nelson, B.C.	6.43	1.58	1.35	0.96	3.40	3.79	1.59	4.37	0.96	1.02	3.34	2.75	23.21	85.6	31.77	3.25
Penticton, B.C.	1.30	0.52	0.51	0.02	1.35	0.74	1.46	1.56	0.94	0.11	0.71	0.50	8.39	14.6	10.05	-1.45
Prince George, B.C.	7.10	2.49	0.96	0.89	2.07	3.76	3.40	3.13	3.08	2.24	2.62	2.80	20.61	73.5	27.96	5.79
Victoria, B.C.	7.19	4.76	0.32	1.50	0.20	0.83	0.22	2.04	0.58	1.87	5.87	2.78	26.78	18.6	28.61	2.46
Dawson, Y.T.	0.37	0.27	0.20	0.22	0.66	1.24	1.44	0.53	0.30	1.87	1.94	1.94	4.88	57.4	10.62	-2.11
Coppermine, N.W.T.	0.17	0.23	0.39	0.20	0.05	0.54	0.84	0.23	1.28	0.84	0.88	0.18	2.82	30.1	5.83	-5.04
Fort Good Hope, N.W.T.	0.61	0.34	1.19	0.24	0.34	1.34	1.43	2.29	2.04	1.29	1.47	0.92	6.66	68.4	13.50	1.32

Section 2.—Standard Time and Time Zones

Standard time which was adopted at a World Conference held at Washington, D.C. in 1884, sets the number of time zones in the world at 24, each zone extending over one twenty-fourth of the surface of the earth and including all the territory between two meridians 15° longitude apart. Standard time is Greenwich time, all other time zones being a definite number of hours either in advance of or behind Greenwich.

Canada has seven time zones, the most easterly being Newfoundland standard time, three hours and thirty minutes behind Greenwich mean time. In the west, Pacific standard time, used throughout British Columbia and part of the Northwest Territories, is eight hours behind Greenwich, and Yukon standard time, used throughout the Yukon Territory, is nine hours behind Greenwich. Some municipalities adopt the time used by the local railways which, in certain cases, differs from the standard. There are also villages that adopt such time as seems best to suit their convenience but in general the legal boundaries of the different time zones are actually in use.

Daylight Saving Time.—For some years before World War I there was active propaganda, particularly in the cities, for the use during the summer months, of an earlier time usually referred to as 'daylight saving time', one hour ahead of standard time. It was considered from the economic as well as from the health point of view that people in industrial towns and cities would gain by having longer periods of sunlight at their disposal for recreation. Canada adopted daylight saving time in 1918 but the Canadian Act lapsed at the end of that year. Since that date however various towns and cities have adopted daylight saving bylaws for varying periods in the summer months.

Legal Authority for the Time Zones.—Most of the regulations made in Canada concerning standard time have been passed by the provincial legislatures and the Northwest Territories Council. The exceptions include: the Daylight Saving Act of 1918; an Order in Council (P.C. 4994) issued in 1940 requiring the continuation, for an additional period, of daylight saving time in a number of places in Ontario and Quebec where it had already been in force for the summer; and an Order in Council in 1942 (P.C. 547) making daylight saving time nationwide—later revoked by Order in Council (P.C. 6102), ending the observance on Sept. 30, 1945. Legislation, besides determining the boundaries of zones, regulates such matters as the times of coming into effect or expiration of Acts, ordinances, contracts and agreements, times of opening and closing registration offices, law courts, post offices and other public offices, times of open or close seasons for game, and times of opening and closing business houses and places of amusement.

PART IV.—GEOPHYSICS AND ASTRONOMY

The research activities carried on in Canada in the fields of geophysics and astronomy together with the modern application of such studies is dealt with in the two special articles that follow.

GEOPHYSICS IN CANADA*

Man's relation to the earth is such an intimate one that throughout the centuries he has studied it intensely for many different purposes. In ancient times his purposes were mainly connected with travelling, surveying, mining and navigating, and from such investigations have descended the modern studies of geography, geodesy, geology and geophysics, respectively.

Geophysics began with the observations made by early navigators of the weather, ocean tides and the lodestone. These studies gradually developed into modern meteorology, physical oceanography and terrestrial magnetism. Besides being of interest to

* Prepared by Dr. C. S. Beals, Dominion Astronomer, Ottawa, and Dr. J. T. Wilson, Department of Physics, University of Toronto.

navigators these subjects had in common a need for precise measurement and thus came to be studied by physicists. To them were added other physical studies of the earth so that geophysics now includes also seismology—the study of earthquakes; hydrology—the study of waters in rivers, lakes, glaciers and underground (but not in the oceans); volcanology—the study of volcanoes and the earth's heat; tectonophysics—the study of the forces which build mountains and slowly cause changes of level of land and sea; the study of the earth's gravity; and several minor studies such as the determination of the ages of ancient rocks and minerals from their content of radioactive elements.

Furthermore during the past thirty years it has been realized that many of the methods first developed for studying the earth as a whole can be used to seek deposits of petroleum and useful minerals. Thus there are now magnetic, electrical, gravitational, seismic and radioactive methods of geophysical prospecting and these are used to direct drilling in almost all the searches going on in Canada for oil and gas. Both airborne and ground devices are widely used by mining companies to prospect for metals.

It may at first sight seem surprising that hidden deposits of minerals and petroleum can be found by investigations carried out above them on the surface of the ground and even more surprising that anything can be discovered about a place so remote and unapproachable as the interior of the earth. A moment's reflection will suggest that in physics the study of remote objects has become commonplace. Astronomers speak every day about galaxies which are unimaginably distant from earth and about conditions in the interior of inconceivably hot and dense stars. So also nuclear physicists discuss the behaviour of the interior of atoms while newspapers freely discuss such things as electrons, neutrons and isotopes which are only physical concepts to explain indirect observations about things much too small ever to be seen. In comparison with these wonders the interior of the earth is almost prosaic. The centre is no farther from Western Canada than is Ireland (4,000 miles), the temperature there is probably about that of an electric arc (4,500°C.) and the pressure there (3,600,000 atmospheres) is only ten times as great as that already obtained in laboratories.

Thus geophysics is the name given to all those studies, by physical means, of the whole earth including its solid part, its waters and its atmosphere and it includes, as a very important aspect, methods of geophysical prospecting. The examinations of surface rocks, minerals and ores where they are exposed on land remains the field of geology. It is obvious that there should be close co-operation between studies so intimately related as geology and geophysics. Geological methods are more direct, they are often cheaper, but they are limited in scope to the land surface only, whereas geophysics embraces the study of all the earth from its centre to its outermost atmosphere.

This article however deals only with phenomena on and beneath the earth's solid surface. Atmospheric phenomena such as the aurora, the ionosphere and the weather as well as physical oceanography are excluded for reasons of simplification. The Dominion Observatory and the Geological Survey at Ottawa and the Physics Department of the University of Toronto are carrying out major programs of geophysical research. Several other universities across the country and various provincial governments are also doing geophysical work and the major oil companies as well as numerous geophysical prospecting concerns have developed geophysical techniques as their most effective approach to the problem of finding oil fields and mineral deposits.

THE DOMINION OBSERVATORY

Terrestrial Magnetism.—Studies of the earth's magnetism have been carried on by the Dominion Observatory at Ottawa since its founding in 1905. For many years the main effort was in the field of magnetic mapping and this is still a major effort of the Observatory. In order to construct accurate magnetic maps of Canada, observations of the direction and strength of the magnetic field at ground level have been made at 1,500 stations distributed as uniformly as possible over the whole country and observations at certain of these locations are repeated every few years in order to detect the slow

continuous changes in the earth's magnetism known as secular variation. Owing to the difficulty of covering a country of so large an area as Canada with ground observations, a gyro-controlled airborne magnetometer has been developed which is able to make the necessary observations of magnetic intensity and direction from the air. Although this instrument is dependent on ground observations for calibration and standardization, it has the great advantage of making continuous records of the magnetic elements along the line of flight and can accumulate in a few hours magnetic mapping information which would otherwise take years to obtain. It is also able to operate in the Arctic regions and over bodies of water where observations at ground or water level are difficult to secure. Magnetic maps of Canada showing the horizontal, vertical and total force, the declination, the rate of secular change and the position of the north magnetic pole, are issued every five years. In addition to purely magnetic maps, more detailed information on magnetic declination is provided for all large scale maps and especially for marine and air navigation charts issued by the Government of Canada. Special surveys are frequently undertaken to provide base stations for geophysical surveys in mineralogically important regions and detailed magnetic data are made available to those requiring them for scientific or commercial purposes.

In addition to the work on mapping, magnetic observatories are maintained at Agincourt, Ont., Meanook, Alta., Baker Lake and Resolute Bay, N.W.T. These observatories are for the purpose of studying the daily and seasonal changes in the earth's magnetism as well as the sudden and unpredictable phenomena known as magnetic storms. One major function of the magnetic observatories is to act as controls for ground and airborne observations which would otherwise be difficult of interpretation when the earth's field is rapidly changing.

An equally important aim of the Observatory work is a study of the causes of short term magnetic variation which appear to be largely dependent upon the effects of the sun's radiation on the upper atmosphere of the earth. Close co-operation with other magnetic observatories throughout the world is maintained, particularly in connection with the interpretation of magnetic storms and their relationship to sunspots, auroras and other phenomena of the upper atmosphere. An additional type of observation now being undertaken is the measurement of earth currents which are closely associated with atmospheric magnetic phenomena.

Supplementing the activities outlined above, studies now in progress are aimed at a clearer understanding of the origin of the earth's magnetic field (now considered to be a consequence of motions in the earth's liquid core) and its long term variations. Evidence for such variations is found not only in the familiar secular changes which are confirmed on the basis of a few years of observation but also in the magnetization of rocks deposited in previous geological epochs, some of which indicate a direction of the earth's field very different from that prevailing today. An extensive investigation is now in progress to examine the magnetization of sedimentary and igneous rocks of known geological age throughout Canada to see whether the information which they give can be used to construct a more complete theory of the earth's magnetism.

Gravity.—Variations of gravity over the earth's surface are both common and of great scientific and commercial importance. Measurements of gravity were first made by observing the frequency of vibration of a pendulum, the frequency increasing with increasing gravity. It is still the standard method of comparing the force of gravity at widely separated points on the earth's surface. In recent years it has been supplemented and to some extent superseded by the use of an instrument called the gravimeter or gravity meter which operates on the principle of the spring balance and has great advantages from the point of view of portability and speed of operation.

Dominion Observatory studies of gravity are aimed at achieving a clear understanding of the major variations over the surface of Canada as a whole. In order to do this the following types of observations have been carried out:—

- (1) Using pendulum equipment, gravity has been observed at a series of primary base stations suitably located across the country. These bases have all been connected to the national base at Ottawa and it, in turn, has been compared with the international standard at Potsdam, Germany. The system of pendulum bases has been extended beyond the borders of Canada to include 20 stations located from Mexico City across the United States and Canada to Fairbanks, Alaska. Similar bases in Canada have been occupied by United States scientists.
- (2) Using the primary bases for purposes of calibration and as points of departure, a system of 100 secondary bases has been set up from Newfoundland to British Columbia and extending well into the Arctic and Subarctic regions of Canada. The values of gravity of these secondary bases are of high accuracy, comparable to the primary bases, and their purpose is to ensure that regional gravity surveys in all provinces and in the Northwest Territories are on a uniform system.
- (3) Utilizing the primary and secondary bases, a series of regional surveys has been carried out with the aid of gravimeters and a substantial proportion of the land area of the country has been covered. In southern Canada the regional surveys have been carried out by automobile, gravimeter observations being made every eight miles. In northern Canadian Shield areas where lakes are numerous, light aircraft have been used for transportation. The actual observations of gravity are made on the shores of the lakes and the stations are on the average about 20 miles apart. The total number of observations made up to the end of 1954 was 11,244. Observations have been extended to all provinces of Canada and as far north as Great Bear Lake in the west and Baffin Island in the east. The observations are being used as bases for commercial geophysical surveys (especially in the Prairie Provinces), for studies of isostasy and geodesy, for the investigation of the roots of ancient mountain ranges and for general studies of the character of the earth's crust in different parts of Canada.
- (4) Detailed surveys aimed at discovering or outlining geological features of anomalous density and moderate size are frequently carried out in limited areas. Such features include ore-bodies, salt deposits, lava flows, geological fault lines, igneous intrusions and ancient meteor craters. Though the Observatory does not itself carry out geophysical prospecting, members of its geophysical staff have spent a good deal of time and energy on the theory and practice of gravity methods as an aid in the search for economic minerals.

Seismology.—For the purpose of recording earthquakes occurring in Canada and in other parts of the world the Observatory maintains eleven seismograph stations located at Halifax, N.S., Seven Falls, Que., Shawinigan Falls, Que., Ottawa, Ont., Kirkland Lake, Ont., Saskatoon, Sask., Banff, Alta., Victoria, B.C., Horseshoe Bay, B.C., Alberni, B.C. and Resolute, N.W.T. The records from these stations are used partly to delineate areas of unusual earthquake hazard and special three-station networks for this purpose are maintained on the Pacific Coast and in the Rocky Mountains. An equally important function of this chain of stations is, in co-operation with other countries, to provide data for the study of the earth's crust and its interior structure. Especially important to this work is the station at Resolute in the Arctic whose location far from any other installation makes it a particularly valuable unit in the world seismographic network.

Major Canadian emphasis in earthquake research is based on a study of seismological records in Canada and other countries to determine the character of the earth movements which cause earthquakes. Though some earthquakes have their origin at the earth's surface, the majority occur at depths of tens to hundreds of miles so that only secondary effects are directly observed. Methods have been devised for deriving the depth and direction of the true earth motions by a graphical analysis of initial shocks recorded by seismograph stations throughout the world on the occasion of a major earthquake. The results are being applied to investigations of the origins of mountains and of other related features such as island arcs and ocean deeps which are found in the vicinity of active earthquake belts.

In addition to the study of earthquakes, the methods of explosion seismology are being used to study the depth and structure of the earth's crust and of various irregular geological structures found within it. For this purpose radio methods are used to transmit the impulses from seismic detectors to a central recorder so that arrays of seismographs as much as

thirty miles in length can be set up with a minimum of difficulty. Among results to date are a determination of the thickness of the crust of twenty-five miles, with a less complex structure than had originally been supposed. Similar methods have been applied experimentally to problems of economic geology and plans are under way to investigate the subsurface structure of a portion of the Continental Shelf of Eastern Canada.

GEOPHYSICAL WORK OF THE GEOLOGICAL SURVEY

The Geophysics Division of the Geological Survey of Canada maintains a Canso aircraft for the purpose of flying an ASQ-3 magnetometer and AEP1903R Mark II scintillation counter. Regional surveys of approximately 40,000 line miles are flown each year. The magnetic data are compiled and published by the staff of the Geological Survey in the form of aeromagnetic maps. The radioactive data are being compiled and will be published in the form of maps on a scale of eight or sixteen miles to the inch. These gamma radiation maps will make it possible to compare the radioactivity of different rock types over broad areas and to compare the general background activity of different geological provinces.

The Geological Survey has started a program of interpreting the aeromagnetic data in relation to the geology on a regional basis. For the past two summers work has been carried on in the Eastern Townships of Quebec. One negative anomaly, the Yamaska, is being studied in detail in relation to the ratio of oxide minerals of iron and titanium, namely, hematite, ilmenite and magnetite. Remanent magnetism and magnetic susceptibility, chemical and petrographic investigations are being made.

Equipment for the study and investigation of physical properties of rocks is being constructed in the Geophysical Laboratories. It is planned to compare the magnetic susceptibility as measured by an astatic method with that as measured by the alternating current method. Also by magnitude and phase relationships in the alternating current method, the conductivity and dielectric constant of rock materials will be separated and analyzed over a range of frequencies. This will be a valuable aid in interpreting electromagnetic data for prospecting for massive sulphide conductors. Eventually physical rock properties will be published for typical rocks in areas that have been flown with the airborne magnetometer.

GEOPHYSICS AT CANADIAN UNIVERSITIES

The teaching of geophysics in Canadian universities can be said to have started at McGill University, Montreal, Que., about 1926 when the late Professor A. S. Eve and Dr. D. A. Keys, now Vice-President of the National Research Council, were invited by the United States Bureau of Mines and by the Geological Survey of Canada to investigate geophysical methods of prospecting for minerals. They started to give courses which are still being conducted and wrote one of the standard textbooks on the subject, *Applied Geophysics* (now in its 4th edition). Their example was soon followed elsewhere in eastern Canada and courses in prospecting for minerals have been given for some years now at Laval University, Quebec, Que.; the University of Montreal, Montreal, Que.; Dalhousie University, Halifax, N.S.; and the University of New Brunswick, Fredericton, N.B. The maritime location of St. Francis Xavier (Antigonish, N.S.) and Dalhousie Universities has led to their co-operation with the Federal Government in oceanographic studies and the latter also maintains a government seismograph station for recording earthquakes.

Professor L. Gilchrist of the University of Toronto was early invited to join Professors Eve and Keys and, as a result, courses were started at Toronto from which more than one hundred and fifty men, twenty-five with Doctorate degrees, have graduated as specialists in geophysical prospecting—most of them within the past ten years. They are now taking part in the search by new methods for minerals and oil in Canada. A well equipped laboratory has also been established for measuring the age of ancient minerals and rocks by

radioactive methods. In addition the University of Toronto co-operates with the Meteorological Division of the Department of Transport to train physicists as meteorologists and gives a course leading to a Master's degree in that subject.

At Queen's (Kingston, Ont.) and McMaster (Hamilton, Ont.) Universities and the University of Western Ontario (London, Ont.) courses in geophysical prospecting are given. The latter has made a specialty of measuring the earth's internal heat while at McMaster the ages of minerals have been determined in conjunction with the university's large program of nuclear studies.

In the universities of Western Canada there has also been specialization. The Universities of Manitoba and Saskatchewan have installed apparatus by which carbonaceous material up to several tens of thousands of years old can be dated. Another such installation is at Dalhousie University. At the University of Manitoba new methods have been developed for detecting and prospecting for radioactive ores from the ground or by air. The University of Saskatchewan has capitalized on its northern location to make outstanding studies of the aurora, of the earth's magnetic field, of the ionosphere, and of radio propagation in Arctic and Subarctic regions. A seismograph station is also maintained at Saskatoon for the Dominion Observatory.

Geophysical prospecting is taught at the Universities of Alberta and British Columbia and the latter has the only Oceanographic Institute at any Canadian university.

Canadian universities are well equipped to train men and carry out research in most phases of geophysics—still a new and expanding subject in whose many and varied branches there exists a great demand for young men and women. Those who decide upon a career in geophysics are not entering upon a field of narrow specialization but are studying a subject as broad as the earth itself.

APPLIED GEOPHYSICS IN CANADA

The advance of geophysics has awaited the development of modern physics so that it is only within the past twenty years—more especially within the past ten years—that geophysics has come to play an important part in the Canadian economy. The various fields of investigation which comprise earth physics lead to methods that may be applied commercially in the search for oil and minerals. In the mining industry Canada has been the scene of many new developments in geophysical exploration, and today probably leads the world from the point of view of diversification of methods and volume of activity. One gauge of this leadership is the \$30,000,000 being spent each year in Western Canada on geophysical exploration for oil alone.

The most successful technique so far developed for mapping underground structures associated with oil accumulation is reflection seismology. Elastic waves generated by artificial explosions are recorded on portable seismographs set up nearby. Certain phases on the records may be identified as waves reflected from various geological horizons, and the arrival times of these waves give a measure of the depth to the reflecting layers. Each seismic party in the field requires 15 to 25 men, including geophysicists, technicians and assistants, and the fact that there are currently about 120 parties operating in the four western provinces indicates the scale of the operation.

Certain developments in technique have been made to meet problems peculiar to Canada. In the northern muskeg regions, transportation is a difficulty, and winter operations are often carried on with the instruments mounted on snowmobiles. The tide of exploration has been moving steadily into the Rocky Mountain foothills where the faulted and folded beds have posed new problems in the interpretation of the records. The high cost of seismic exploration has encouraged the use of the gravimeter and airborne magnetometer as reconnaissance instruments. Gravitational and magnetic indications are less direct as most of them arise from conditions within the crystalline rocks beneath the oil-bearing sedimentary formations; but they may point out interesting areas for detailed seismic investigation.

In exploration for minerals a great variety of techniques have been used, depending on the various physical properties by which ores differ from their surroundings. At present interest is perhaps greatest in the airborne magnetometer, certain airborne radiation detectors, and in electromagnetic methods. The recording from the air of small changes in the earth's magnetic field has led to such important recent discoveries as the magnetic iron ore at Marmora, Ont., and the base metal ores, associated with magnetic minerals, near Bathurst, N.B. Similarly, large areas are being investigated for radioactive deposits by means of airborne counters. Because many ore minerals are good electrical conductors they may be located by electromagnetic techniques, in which electric currents are induced in subsurface conductors by primary alternating magnetic fields on the surface. Recent improvements in the method, including the use of a wide range of frequencies for the primary field, have led to such discoveries as the extensions of the Gaspé copper deposits.

Gravitational methods also play a role in exploration for minerals and have the advantage that of all geophysical methods the indications are most closely related to the all important mass or tonnage of the bodies producing them.

ASTRONOMY IN CANADA*

The modern era of astronomy in Canada may be said to have begun in 1905 with the completion of the Dominion Observatory, the national observatory of Canada. Prior to then an astronomical observatory established in 1851 at Fredericton, N.B. was used for a short time to determine the longitude of that centre and for general astronomical purposes; it has recently been rehabilitated as a historic monument. Other small observatories were established, one at Quebec city in 1854 and one at Kingston in 1875. Astronomical instruments were to be associated with the Magnetic Observatory built by the British Government at Toronto in 1839 but there is no record of them being set up until 1881. A small observatory set up at McGill University in 1879 was used for many years for time observations.

Today the science of astrophysics is carried on mainly by three Canadian institutions: the Dominion Observatory at Ottawa, Ont., the Dominion Astrophysical Observatory at Victoria, B.C., both of which are administered by the Department of Mines and Technical Surveys, and the David Dunlap Observatory associated with the University of Toronto. Of the two Government institutions, the Dominion Observatory at Ottawa specializes mainly in the astronomy of position, in solar physics and in various branches of geophysical work, while the major effort in astrophysics is concentrated at the Dominion Astrophysical Observatory at Victoria. The David Dunlap Observatory, founded in 1935, is equipped with very fine astrophysical instruments of a kind similar to those in use at Victoria. It performs not only the functions of a privately financed and administered research institution but is also the nucleus of the Department of Astronomy at Toronto University. In addition to the work of these three major institutions and a number of smaller observatories, investigations in the field of radio astronomy are conducted by the National Research Council.

THE DOMINION OBSERVATORY

The Dominion Observatory had its origin in the survey activities of the Government and the immediate occasion for its construction in 1905 was the great increase in astronomical work required by the survey of railway lands donated by the Province of British Columbia to ensure the construction of the Canadian Pacific Railway. In its early years the Dominion Observatory was intimately associated with geodetic surveying but since 1916 work of that type has been done by another branch of government. The present work of the Dominion Observatory is summarized in the following paragraphs.

* Prepared by Dr. C. S. Beals, Dominion Astronomer, Ottawa, Dr. J. F. Heard, Director David Dunlap Observatory, Toronto, and A. E. Covington, Division of Radio and Electrical Engineering, National Research Council, Ottawa.

Astronomy of Position.—Although the determination of the positions and motions of the stars is less spectacular than some other aspects of astronomical observation, such determinations nevertheless constitute the foundation on which the science of astronomy is based. All studies of the periods, distances and masses of members of the solar system depend on astronomical measurements of position and studies of the structure of the galaxy and the character of external galaxies are also closely bound up with measurements of the precise positions of stars. Work at Ottawa on stellar positions is carried out with a meridian circle telescope which was first put into operation in 1907. A "transit" instrument of this type is mounted on fixed pivots in such a way as to observe stars as they cross the meridian, or north-south circle in the sky. The actual quantities observed are the time of crossing the meridian and the declination or angular distance of the star above the equator.

Since its erection the Ottawa meridian circle telescope has been used to derive the positions of approximately 10,000 stars as well as to make many observations of members of the solar system. These observations are published not only as Canadian catalogues but are also incorporated in star lists used throughout the world for air and marine navigation, for surveying and for the determination of accurate time. The original Ottawa meridian circle telescope is still in operation, but plans are now under way to replace it with a new instrument of reflecting type and larger light-gathering power which is expected to reach stars of much fainter magnitude.

For time determinations at Ottawa, the meridian circle was used at first but was later replaced by a smaller reversible transit instrument. Though such observations were sufficiently accurate for the great majority of uses to which time is put, the need was felt for greater precision and in 1952 an entirely new type of instrument known as a photographic zenith telescope was put into operation for time observations. This instrument consists of a refracting telescope mounted in a vertical position with a mercury basin located about seven feet below the lens. The mercury surface reflects the light back on itself where it comes to a focus just below the telescope lens. Observations are made photographically and the accuracy obtained is very much greater than with previous instruments. This telescope has the advantage that it operates automatically and photographs are taken of successive stars as they cross the meridian at the zenith without the necessity of an observer being constantly present. Another feature of this instrument is the possibility of making very precise measurements of latitude. A constant check is kept of the latitude of Ottawa which is found to vary in a semi-regular manner with a period of about 14 months.

An important part of the Time Service is its clocks which are required to time astronomical observations and to interpolate between periods of observation. Until 1939 pendulum clocks were used, housed in vacuum cases and kept in constant temperature vaults to maintain accurate rates. The best pendulum clocks leave a great deal to be desired in accuracy however and, following 1939, quartz crystal clocks were gradually substituted. The vibrations of a suitably mounted and thermally controlled quartz crystal are very much more reliable than those of a pendulum and the Observatory now maintains a battery of five crystal clocks including one ring crystal of the type developed by the British Post Office. The best of these clocks show performances superior by a factor of 10 to the pendulum equipment and the average of several is sufficiently good to take full advantage of the increased accuracy of the photographic zenith telescope.

Another feature of the Time Service is distribution of seconds time signals by wire and radio throughout the country. Government buildings, commercial firms, telephone and telegraph companies and the two major railway systems are served by direct wire from the Observatory. The general public is served by the 1:00 p.m. signal on the CBC and the needs of aerial and marine navigators, surveyors and persons living in remote parts of the country are served by shortwave broadcasts of time signals. These broadcasts are in the frequencies 3,330, 7,335 and 14,670 kilocycles and include a voice announcement of the time every minute during the twenty-four hours of the day.

Stellar Physics.—A study of the physical characteristics of the sun and other heavenly bodies, including certain aspects of the earth itself, forms part of the astronomical program of the Dominion Observatory. The spectrum of the sun is studied by photographic means as well as by the use of photoelectric and photoconductive cells. These spectroscopic studies also give a considerable amount of information about the gaseous constituents of the earth's atmosphere through which the sun's radiation must pass. Additional information concerning the sun is obtained by means of frequent direct photographs through a red filter which admits only the light from its hydrogen atmosphere. These atmospheric photographs are especially valuable for the study of eruptions and variations in the sun's surface of a kind which may affect conditions on the earth.

Still another important means of studying the sun's atmosphere is by the observation of solar eclipses, rare events frequently interfered with by clouds. During an eclipse on June 30, 1954 spectroscopic studies of the sun's atmosphere were made by the Observatory with spectrographs mounted in an aircraft at a height of 27,000 feet. The effects of clouds were thus avoided and excellent spectra were obtained of that part of the sun's atmosphere projecting beyond the obscuring moon. These studies of the sun give a clearer understanding of its atmosphere and the source and characteristics of its radiation. Of particular interest are those changes, usually associated with sunspots, which cause auroras, magnetic storms, radio fadeouts and other disturbances in the earth's upper atmosphere.

In the field of meteoric astronomy, investigations of the motions of meteors or shooting stars give very valuable information concerning the upper atmosphere of the earth. In addition one of the major problems of astronomy is concerned with the origin and the relation to other members of the solar system of bodies that enter the earth's atmosphere to form bright meteors and if sufficiently massive, occasionally fall to the earth's surface. Regular visual observations of meteors together with direct photographic and spectroscopic observations are carried on at Ottawa. At Meanook and Newbrook, Alta., two powerful astronomical cameras of the Schmidt type, set up 26 miles apart, are employed in the photographic triangulations of meteors. Measurements of the photographs, establishing the exact position and space velocity of the meteors and the deceleration produced by the earth's atmosphere, have an important application to problems of the ballistics of high velocity military projectiles in the upper atmosphere.

Another problem of meteoric astronomy is the character and origin of meteorite craters and their possible relationship to similar craters on the moon. Several Canadian craters are being actively investigated and one has been found which appears to be 400,000,000 years old. A mathematical investigation has been initiated aimed at making clear the character of the explosive forces generated when a meteorite of very large size strikes the earth and some progress has been made in explaining the shapes and dimensions of known terrestrial craters.

THE DOMINION ASTROPHYSICAL OBSERVATORY*

The function of the Dominion Astrophysical Observatory at Vancouver is to make and interpret observations of the stars and other celestial objects in order to contribute to the exploration of the dynamical and spatial nature of the universe, to determine the dimensions of the stars, and to elucidate their physical and chemical conditions and the amount and quality of their radiant energy. For these purposes observations are made with a powerful spectrograph attached to the 72 inch telescope. The starlight is analysed and photographed in the spectrograph so that measurements can be made of the complex radiations emitted by the stars. Another instrument, the photoelectric photometer, enables precise measurement to be made of the brightness of starlight in half a dozen colours.

Broadly speaking the work falls into two branches. To study the universe large numbers of stars are photographed and their speeds, luminosities and distribution in space measured. On the other hand studies of the nature of the stars as physical entities are carried out by making detailed analyses of the photographed spectra of a relatively small number of selected stars.

* A more detailed account is given in a special article appearing in the 1948-49 Year Book, pp. 63-71.

During the past thirty-five years a major effort has been made to measure the line-of-sight speeds of the stars. This is done by making precise and exacting measurements of the positions of the radiations upon the photographs of stellar spectra. The velocities of nearly 4,000 stars have been measured. More recently much attention has been given to the problem of the determination of the distances of the stars which have been measured for velocity. The methods developed for this task have given the distances and intrinsic brightness of nearly 2,000 stars. In the course of these researches much has been learned about the properties of the material in interstellar space, its composition, motions and distribution and its effect upon the transmitted starlight.

The material thus accumulated has permitted a description and study of the universe to a distance of about 5,000 light-years from the sun. The earth's sun is a typical star of the galaxy, known as the Milky Way system, a lens-shaped aggregation comprising probably some 40,000,000,000 stars with an equal mass of dust and gas scattered between them. This enormous galaxy is about 70,000 light-years in diameter and is rotating about its centre. The earth's sun, approximately 25,000 light-years distant from the galactic centre, requires over 200,000,000 years to make one revolution.

The Observatory has played a leading role in the discovery and study of close double stars. These are systems of two stars in rapid revolution about their centre of gravity and so close to one another that they cannot be seen as two separate stars but must be studied with the spectroscope by means of which calculations are made of the sizes, masses, mean densities and energy output of the two stars. Double-star astronomy is essential to an understanding of the stars for (apart from the sun) it is almost the only source of information on the masses and dimensions of these objects which are of such importance to studies of the universe. Moreover these observations of double stars demonstrate the applicability of the law of gravitation throughout the stellar system as well as in the vicinity of the earth and sun.

The Observatory also carries out investigations into the physical and chemical nature of the stars by making detailed measures of the relative amounts of energy at various wavelengths in the emitted starlight. Thus information is obtained on the chemical composition of the stars and the relative abundance of chemical elements in the universe, as well as on the temperatures and pressures prevailing in stellar atmospheres and the motions and forces involved in the interaction of matter and radiant energy. The stars studied range from the very hot objects where matter is reduced to a relatively simple state, to the cool stars in whose atmospheres chemical compounds are able to exist.

The Observatory's spectroscopic analyses are of interest apart from astrophysics. They allow the study of atoms under conditions not yet produced in terrestrial laboratories and in the presence of a field of radiant energy not attainable on earth. The information from these astrophysical studies advances the knowledge of terrestrial physics and chemistry and the understanding of atoms and atomic processes.

THE DAVID DUNLAP OBSERVATORY

Professor C. A. Chant pioneered in the teaching of astronomy in Canada. He joined the staff of the Department of Physics at the University of Toronto in 1891 and, being interested in astronomy and particularly in the then new subject of astrophysics, energetically strove to improve the position of astronomy at the University. In 1904 his efforts were rewarded by the establishment of a graduate course entitled 'Physics and Astrophysics', and Dr. Chant was appointed head of a newly created sub-department of Astrophysics. This later became the Department of Astronomy with Dr. R. K. Young as assistant. During these years most of the professional astronomers in Canada received their training in Dr. Chant's Department and he felt increasing need for an observatory for astronomical research to aid in this training. The David Dunlap Observatory was the outcome of his tireless efforts to fill this need.

In 1930 Jessie Donalda Dunlap offered to build and donate to the University an observatory to be named in memory of her deceased husband, David Alexander Dunlap, who himself had been interested in Dr. Chant's proposal. The site chosen was to the immediate south of Richmond Hill, Ont., about ten miles north of Toronto. Work was begun in 1932 and the Observatory was completed and opened in 1935.

The David Dunlap Observatory was designed primarily for astrophysical research. The principal telescope, housed in a 61 foot dome, is a reflector of 74 inch aperture equipped with both Newtonian secondary for direct photography and Cassegrain secondary for use with a one-prism spectrograph. Separate from the dome for the 74 inch telescope is the Administration Building which contains library, offices, laboratories and workshops and which supports three domes. One of these houses a 19 inch reflecting telescope designed and built by Dr. R. K. Young. This telescope is used for direct photography and more recently for photoelectric photometry. A second dome on the Administration Building houses a six inch refracting telescope for student use; the third is vacant. Measuring instruments of various types for studying the astronomical photographs complete the scientific equipment of the Observatory.

Stellar Radial Velocities.—As regards the real motions of the stars, which reveal the over-all dynamics of the stellar system, classical astronomy had had to be content with that part of the motion which is directed across the line of sight and which is manifested by slight changes of position of the stars relative to one another. About eighty years ago it began to be possible by means of astronomical spectroscopy to measure also the radial or line-of-sight component of stellar motion. These stellar radial velocities as they became available for statistically large numbers of stars in the early part of this century revealed much new information concerning the structure of the galaxy. It was this field of radial velocity determination which was chosen for the major effort of the 74 inch telescope during the Observatory's early years. In twenty years about 2,500 stars have been measured for radial velocity out of a total of about 15,000 for which radial velocities are now known.

Stellar Photometry.—Another measurable attribute of stars which has always been of the greatest importance to the study of stars and star systems has been their apparent brightness. In particular this is true for stars of variable brightness. Some classes of these variable stars hold the clue for the determination of distances in the outer parts of the galaxy, particularly of the globular clusters. A twenty year program of photographic photometry of faint variable stars in many of the globular clusters has occupied about 5 p.c. of the observing time of the 74 inch telescope and has added appreciably to knowledge of these clusters. More recently photoelectric photometry, using electronic equipment fitted to the 19 inch telescope, has been added to the Observatory's observing program.

Stellar Luminosities.—Ranking in importance with measurement of apparent brightness of stars is the measurement of the luminosity or intrinsic brightness for, if both can be measured for the same star, then the star's distance may be calculated. Methods are available for gauging stellar luminosities from spectra of the stars and in recent years have been adapted to the collection of stellar spectra available at the Observatory from the radial velocity work. About 1,500 stars have now been measured for luminosity and new equipment and new methods are being developed to increase the precision of luminosity determination.

The foregoing brief outline of the work of the Observatory is intended to indicate only the major fields of observational activity. To this must be added detailed research problems of staff and students, which may be related to the observational data referred to, may be along purely theoretical lines, or may involve particular observational techniques designed to fit the problems. An effort is made to strike a balance between the production of routine astronomical measurements and the encouragement of individual enterprise and new methods of research.

In accordance with the wishes of the donor, the Observatory is open to the public on Wednesday afternoons throughout the year and for the first two hours of darkness on Saturday evenings from Apr. 1 to Oct. 31.

RADIO ASTRONOMY AT THE NATIONAL RESEARCH COUNCIL*

Within the past decade the rapidly developing techniques of the radio laboratory have been used to further understanding of the universe in the sense of observational astronomy. The incorporation of the techniques of a new science within one of the oldest of sciences has arisen because both the light and the radio emission from a celestial object are electromagnetic disturbances which travel with the same velocity (186,000 miles per second) but have different wavelengths (or frequencies).

Solar Radio Astronomy.—In 1946 the Radio and Electrical Engineering Division of the National Research Council commenced investigations on the emission of radio waves from the sun on a wavelength of 10.7 centimetres. The techniques and equipment which had been designed for radar sets in the Division were modified for use in this new field. The initial work was carried out at the Metcalfe Road Field Station, Ont., but because considerable microwave radio interference was experienced at this station a new site was acquired in 1948 at Goth Hill in South Gloucester, Ont., located fourteen miles south of Ottawa and this is the present location of the solar noise observatory.

The Observatory is now operating two radio-telescopes which monitor the total emission from the sun: one is the original four-foot parabolic reflector which has been in service since 1946; the second is a recently installed reflector of ten-foot diameter. A third radio-telescope, a 150-foot-long array, has been used to give directional information of radio waves from the sun, and is currently being modified in order to improve the resolving power.

The long series of regular observations of the sun at a wavelength of 10.7 centimetres, noted above, will be continued into the future. Comparison with optical observations made at other observatories has shown that there are three components of radio noise: an emission originating from the undisturbed solar atmosphere, an emission varying slowly from day to day which originates from the vicinity of sunspots, and a somewhat rare impulsive component of short duration which is associated with the appearance of solar flares. These emissions have been shown to originate at a level associated with the solar chromosphere—the transition layer above the photosphere and below the corona. The continuous monitoring of the radio emission on this wavelength appears to provide convenient indices of solar activities and will be of use in the fields of ionospheric research, the solar origin of cosmic rays, auroral studies and magnetic storm analysis. In each of these fields special events on earth may be traced to the occurrence of a flare on the sun.

Meteor Radio Astronomy.—In 1947 the Division of Radio and Electrical Engineering together with the Dominion Observatory initiated a combined program of meteor research. A 33 Mc/s radar set was developed at the Metcalfe Road Field Station so that echoes from meteors passing through the upper atmosphere could be readily detected. Visual, photographic and spectrographic work was also conducted. One of the most important contributions of this program to astronomy has been the conclusion that few if any meteors down to the eighth magnitude can be of interstellar origin. A few determinations of the complete orbits of meteors have been made by triangulating points of the ionized meteor path from three independent radar stations and have yielded elliptical orbits.

* Prepared by A. E. Covington, Division of Radio and Electrical Engineering, National Research Council, Ottawa.

Recently a new Upper Atmosphere Research Section has been formed in the Radio and Electrical Engineering Division. The activities of this Section will include both meteor and auroral observations as well as the study of associated ionospheric problems. Meteor research in co-operation with the Dominion Observatory will be continued during certain selected periods of meteor showers.

SMALLER OBSERVATORIES

In addition to the major research institutions whose work is described above, smaller observatories for student instruction or for the benefit of the public are maintained by universities or astronomical societies at Victoria, B.C., Edmonton, Alta., Saskatoon and Regina, Sask., London, Ont., and Quebec and Montreal, Que. There are also many private individuals and small groups who possess telescopes or small observatories and who practise astronomy as a hobby. Some of them grind and polish their own telescope mirrors, often producing instruments of excellent optical quality, capable of making observations of professional standard. Contact between amateur and professional astronomers is made possible by common membership in the Royal Astronomical Society of Canada. This Society has a membership of approximately 2,000, maintains centres in most of the major cities of Canada and publishes a Journal devoted to the dissemination of astronomical knowledge.

CHAPTER II.—CONSTITUTION AND GOVERNMENT

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

PART I.—CONSTITUTION OF CANADA

The Canadian federal state was established by the British North America Act, 1867 which united the three British North American provinces of Canada, New Brunswick and Nova Scotia into one country, divided into four provinces, namely, Ontario, Quebec, New Brunswick and Nova Scotia. British Columbia entered the Union in 1871 and Prince Edward Island in 1873. The Province of Manitoba was created in 1870 and the Provinces of Saskatchewan and Alberta in 1905 out of portions of the territories formerly held by the Hudson's Bay Company and admitted to the Union in 1870. Newfoundland entered the Union in 1949. At present therefore Canada consists of ten provinces and the remaining territories known as the Yukon Territory and the Northwest Territories.

The British North America Act of 1867 divided both legislative and executive authority between the Government of Canada and the Provincial Legislatures. Judicial authority was not similarly divided, federal and provincial courts having jurisdiction with respect to both federal and provincial laws.

Although the British North America Act of 1867 together with its subsequent amendments is popularly regarded as the Constitution of Canada, it is not an exhaustive statement of the laws and rules by which Canada is governed. The Constitution of Canada in its broadest sense includes other statutes of the United Kingdom Parliament (e.g., the Statute of Westminster, 1931), statutes of the Parliament of Canada relating to such matters as the succession to the Throne, the demise of the Crown, the Governor General, the Senate, the House of Commons, electoral districts, elections, Royal Style and Titles, and also

1.—Provinces and Territories of Canada, Dates of Admission to Confederation, Legislative Process by which Admission was Effectuated and Present Areas

Province, Territory or District	Date of Admission or Creation	Legislative Process	Present Area (sq. miles)		
			Land	Fresh Water	Total
Ontario ¹	July 1, 1867	Act of Imperial Parliament — The British North America Act, 1867 (30-31 Vict., c. 3), and Imperial Order in Council, May 22, 1867.	348,141	64,441	412,582
Quebec ²	July 1, 1867		523,860	71,000	594,860
Nova Scotia.....	July 1, 1867		20,743	325	21,068
New Brunswick.....	July 1, 1867		27,473	512	27,985
Manitoba ³	July 15, 1870	Manitoba Act, 1870 (33 Vict., c. 3) and Imperial Order in Council, June 23, 1870.....	219,723	26,789	246,512
British Columbia.....	July 20, 1871	Imperial Order in Council, May 16, 1871.....	359,279	6,976	366,255
Prince Edward Island.....	July 1, 1873	Imperial Order in Council, June 26, 1873.....	2,184	--	2,184
Saskatchewan ⁴	Sept. 1, 1905	Saskatchewan Act, 1905 (4-5 Edw. VII, c. 42).....	220,182	31,518	251,700
Alberta ⁴	Sept. 1, 1905	Alberta Act, 1905 (4-5 Edw. VII, c. 3)...	248,800	6,485	255,285
Newfoundland.....	Mar. 31, 1949	The British North America Act, 1949 (12-13 Geo. VI, c. 22).....	147,994	7,370	155,364
Northwest Territories ⁵	July 15, 1870	Act of Imperial Parliament—Rupert's Land Act, 1868 (31-32 Vict., c. 105), and Imperial Order in Council, June 23, 1870.....	1,253,438	51,465	1,304,903
Mackenzie ⁶	Jan. 1, 1920	Order in Council, Mar. 16, 1918.....	493,225	54,265	547,490
Keewatin ⁶	Jan. 1, 1920		218,460	9,700	228,160
Franklin ⁶	Jan. 1, 1920		641,763	7,600	649,363
Yukon Territory ⁷	June 13, 1898	Yukon Territory Act, 1898 (61 Vict., c. 6).....	205,346	1,730	207,076
Canada.....			3,577,163	268,611	3,845,774

¹ The area of Ontario was extended by the Ontario Boundaries Extension Act, 1912 (2 Geo. V, c. 40).

² Extended by Quebec Boundaries Extension Act, 1912 (2 Geo. V, c. 45) and diminished Mar. 1, 1927 in consequence of the Award of the Judicial Committee of the British Privy Council whereby approximately 112,000 sq. miles of territory (formerly considered as part of Quebec) was assigned to Newfoundland.

³ Extended by the Extension of Boundaries Act of Manitoba, 1881 and the Manitoba Boundaries Extension Act, 1912 (2 Geo. V, c. 32).

⁴ Saskatchewan and Alberta created as provinces in 1905 from the area formerly comprised in the provisional Districts of Assiniboia, Athabasca, Alberta and Saskatchewan established May 17, 1882 by minute of Canadian Privy Council concurred in by Dominion Parliament and Order in Council, Oct. 2, 1895.

⁵ By an Imperial Order in Council passed on June 23, 1870 pursuant to the Rupert's Land Act, 1868 (31-32 Vict., c. 105) the former territories of the Hudson's Bay Company known as Rupert's Land and the North-Western Territory were transferred to Canada effective July 15, 1870. These territories were designated as the North-West Territories by the Act of 32-33 Vict., c. 3 and as the Northwest Territories by R.S.C. 1906, c. 62. By Imperial Order in Council of July 31, 1880 (effective Sept. 1, 1880) all British territories and possessions in North America not already included within Canada and all islands adjacent thereto (with the exception of the Colony of Newfoundland and its dependencies) were annexed to Canada and these additional territories were formally included in the North-West Territories by 4-5 Edw. VII, c. 27. The Province of Manitoba was formed out of a portion of the territories by the Manitoba Act, 1870 (33 Vict., c. 3) and a further portion was added to Manitoba in 1881 by 44 Vict., c. 14. The Provinces of Alberta and Saskatchewan were formed out of portions of the territories in 1905 and in 1912 other portions were added to Manitoba, Ontario and Quebec.

⁶ By 39 Vict., c. 21, a separate district to be known as the District of Keewatin was established and provision was made for the local government thereof. The Act was expressed to come into force by proclamation. It provided that portions of the District might be re-annexed to the North-West Territories by proclamation; in 1886 a portion of the District of Keewatin was re-annexed and in 1905 the entire Keewatin District was re-annexed. The Act of 39 Vict. was never proclaimed. By Order in Council of May 8, 1882 the provisional districts of Assiniboia, Saskatchewan, Alberta and Athabasca were created for the convenience of settlers and for postal purposes. By Order in Council of Oct. 2, 1895 the further provisional districts of Ungava, Franklin, Mackenzie and Yukon were created. The boundaries of these provisional districts were re-defined by Order in Council of Dec. 13, 1897. Subsequently the Yukon Territory was formed, the Provinces of Alberta and Saskatchewan were created and other portions of the territories were annexed to Quebec, Ontario and Manitoba. By Order in Council, dated Mar. 16, 1918 (effective Jan. 1, 1920) the remaining portions of the Northwest Territories were divided into three provisional districts known as Mackenzie, Keewatin and Franklin.

⁷ The provisional district of Yukon established in 1895 was created a judicial district of the North-West Territories by proclamation issued pursuant to Sect. 51 of the North-West Territories Act (R.S.C. 1886, c. 50) on Aug. 16, 1897 and by the Yukon Territory Act (61 Vict., c. 6) was declared to be a separate Territory.

statutes of provincial legislatures relating to provincial government and provincial legislative assemblies. Other written instruments such as the Royal Proclamation of 1763, early instructions to Governors, letters patent creating the offices of Governors and Governors General, and Orders in Council passed pursuant to the British North America Act also form part of the Canadian constitutional system. In addition the Constitution of Canada includes well established usages and conventions. The preamble to the British North America Act states that it was the desire of the original provinces to be united "with a constitution similar in principle to that of the United Kingdom" and accordingly many of the usages and conventions of government that have been developed in the United Kingdom over the centuries are followed in Canada. For example the Cabinet system of responsible government as developed in the United Kingdom obtains in Canada although no mention thereof is made in the British North America Act.

No provision was made in the British North America Act, 1867 for amendment thereof by any legislative authority in Canada but both the Parliament of Canada and the provincial legislatures were given legislative jurisdiction with respect to some matters relating to government. Thus for example the Parliament of Canada was given jurisdiction with respect to the establishment of electoral districts and election laws and the privileges and immunities of members of the House of Commons and the Senate, and each provincial legislature was empowered to amend the constitution of the province except as regards the office of Lieutenant-Governor. By an amendment to the British North America Act passed in 1949 the authority of the Parliament of Canada to legislate with respect to constitutional matters was considerably enlarged and it may now amend the Constitution of Canada except as regards the legislative authority of the provinces, the rights and privileges of provincial legislatures or governments, schools, the use of the English or the French language, and the duration of the House of Commons other than in time of real or apprehended war, invasion or insurrection.

Canada's Status in the Commonwealth of Nations.*—The several stages in the development of the status of Canada have been authoritatively described in the reports of successive Imperial Conferences including that held at London in 1926 which defined the group of self-governing communities consisting of the United Kingdom and the Dominions as "autonomous communities within the British Empire, equal in status, in no way subordinate one to another in any aspect of their domestic or external affairs, though united by a common allegiance to the Crown, and freely associated as members of the British Commonwealth of Nations". That Conference also recognized that as a consequence of this equality of status the Governor General of a Dominion "is the representative of the Crown, holding in all essential respects the same position in relation to the administration of public affairs in the Dominion as is held by His Majesty the King in Great Britain", and that "it is the right of the Government of each Dominion to advise the Crown in all matters relating to its own affairs". Simultaneously with this change in the constitutional relationship between the several parts of the British Commonwealth of Nations there developed as a complementary aspect of nationhood the assumption by the several Dominions of further responsibilities and rights of sovereign States in their relations with other members of the community of nations. Membership in the League of Nations and more recently in the United Nations, the exercise of treaty-making powers and the establishment of separate diplomatic representation in a number of foreign countries have characterized this phase in the growth of Canada. More explicit recognition of the implications of the principles of equality of status was accorded in the Statute of Westminster of 1931 which provided for the removal of the remaining limitations on the legislative autonomy of the Commonwealth nations.

Thus Canada, under the Crown, has equality of status with the United Kingdom and the other Commonwealth nations in both domestic and foreign affairs; its Government advises the Crown in the person of the Governor General on all matters relating to Canada. Canada has membership in the United Nations; makes its own treaties; appoints its

* For a more detailed account see 1952-53 Year Book, pp. 101-104.

own ambassadors and other representatives abroad; levies its own taxes; makes its own laws which are executed by a government dependent on the will of a majority of the people; and maintains its own military, naval and air forces. In short, Canada has achieved the full status of democratic nationhood within the Commonwealth of Nations.

PART II.—MACHINERY OF GOVERNMENT

Section 1.—The Federal Government

Subsection 1.—The Executive

The Crown.—The British North America Act provides that “the Executive Government and authority of and over Canada is . . . vested in the Queen”. The functions of the Crown, which are substantially the same as those of the Queen in relation to the Government of the United Kingdom, are discharged in Canada by the Governor General in accordance with established principles of responsible government. The practical executive functions of government are exercised by the Cabinet.

Apart from her constitutional position in relation to the various governments of the Commonwealth countries the Queen is Head of the Commonwealth and symbolizes the association of the member countries. Until 1953 the title of the Queen was the same throughout the Commonwealth. Constitutional developments put the title somewhat out of accord with the facts of the position and in December 1952 it was decided by the Prime Ministers of the Commonwealth countries meeting at London, Eng., that new forms of title for each country should be devised. The title for Canada was approved by Parliament and established by a Royal Proclamation on May 29, 1953. The title of the Queen, so far as Canada is concerned, now is:—

“Elizabeth the Second, by the grace of God of the United Kingdom, Canada and her other realms and territories Queen, Head of the Commonwealth, Defender of the Faith”.

The Governor General.—The Governor General, appointed by the Queen on the advice of the Prime Minister of Canada, traditionally serves for a term of five years. He exercises the executive authority of the Queen in relation to the Government of Canada under the Letters Patent constituting the Office of Governor General and the provisions of the British North America Acts, 1867 to 1952. Acting under the recommendations of his responsible advisers he summons, prorogues and dissolves Parliament and assents to Bills and exercises other executive functions.

2.—Governors General of Canada since Confederation, 1867

Name	Date of Appointment	Date of Assumption of Office
VISCOUNT MONCK, G.C.M.G.	June 1, 1867	July 1, 1867
LORD LISGAR, G.C.M.G.	Dec. 29, 1868	Feb. 2, 1869
The EARL OF DUFFERIN, K.P., K.C.B., G.C.M.G.	May 22, 1872	June 25, 1872
The MARQUIS OF LORNE, K.T., G.C.M.G.	Oct. 5, 1878	Nov. 25, 1878
The MARQUIS OF LANSDOWNE, G.C.M.G.	Aug. 18, 1883	Oct. 23, 1883
LORD STANLEY OF PRESTON, G.C.B.	May 1, 1888	June 11, 1888
The EARL OF ABERDEEN, K.T., G.C.M.G.	May 22, 1893	Sept. 18, 1893
The EARL OF MINTO, G.C.M.G.	July 30, 1898	Nov. 12, 1898
EARL GREY, G.C.M.G.	Sept. 26, 1904	Dec. 10, 1904
FIELD MARSHAL H.R.H. THE DUKE OF CONNAUGHT, K.G.	Mar. 21, 1911	Oct. 13, 1911
The DUKE OF DEVONSHIRE, K.G., G.C.M.G., G.C.V.O.	Aug. 19, 1916	Nov. 11, 1916
GENERAL THE LORD BYNG OF VIMY, G.C.B., G.C.M.G., M.V.O.	Aug. 2, 1921	Aug. 11, 1921
VISCOUNT WILLINGDON OF RATON, G.C.S.I., G.C.I.E., G.B.E.	Aug. 5, 1926	Oct. 2, 1926
The EARL OF BESSBOROUGH, G.C.M.G.	Feb. 9, 1931	Apr. 4, 1931
LORD TWEEDSMUIR OF ELSFIELD, G.C.M.G., G.C.V.O., C.H.	Aug. 10, 1935	Nov. 2, 1935
MAJOR-GENERAL THE EARL OF ATHLONE, K.G., P.C., G.C.B., G.C.M.G., G.C.V.O., D.S.O.	Apr. 3, 1940	June 21, 1940
FIELD MARSHAL VISCOUNT ALEXANDER OF TUNIS, K.G., G.C.B., G.C.M.G., C.S.I., D.S.O., M.C., A.D.C.	Aug. 1, 1945	Apr. 12, 1946
The Right Honourable VINCENT MASSEY, C.H.	Jan. 24, 1952	Feb. 28, 1952

The Cabinet.—The Cabinet is a committee of the Queen's Privy Council for Canada and is responsible to Parliament. By convention the members of the Cabinet are members of either the House of Commons or the Senate. Normally a Cabinet member has a seat in the House of Commons.

The Cabinet initiates nearly all public Bills placed before Parliament and following established precedent resigns office when it becomes evident that it no longer holds the confidence of the representatives of the people. Its members are chosen by the Prime Minister and each generally assumes charge of one of the various departments of government, although a Minister may hold more than one portfolio at the same time or may be without portfolio.

3.—Prime Ministers since Confederation, 1867

Ministry	Prime Minister	Length of Administration
1	Rt. Hon. Sir JOHN ALEXANDER MACDONALD.....	July 1, 1867 - Nov. 5, 1873
2	Hon. ALEXANDER MACKENZIE.....	Nov. 7, 1873 - Oct. 16, 1878
3	Rt. Hon. Sir JOHN ALEXANDER MACDONALD.....	Oct. 17, 1878 - June 6, 1891
4	Hon. Sir JOHN JOSEPH CALDWELL ARBOTT.....	June 16, 1891 - Nov. 24, 1892
5	Rt. Hon. Sir JOHN SPARROW DAVID THOMPSON.....	Dec. 5, 1892 - Dec. 12, 1894
6	Hon. Sir MACKENZIE BOWELL.....	Dec. 21, 1894 - Apr. 27, 1896
7	Hon. Sir CHARLES TUPPER.....	May 1, 1896 - July 8, 1896
8	Rt. Hon. Sir WILFRID LAURIER.....	July 11, 1896 - Oct. 6, 1911
9	Rt. Hon. Sir ROBERT LAIRD BORDEN.....	Oct. 10, 1911 - Oct. 12, 1917 (Conservative Administration)
10	Rt. Hon. Sir ROBERT LAIRD BORDEN.....	Oct. 12, 1917 - July 10, 1920 (Unionist Administration)
11	Rt. Hon. ARTHUR MEIGHEN.....	July 10, 1920 - Dec. 29, 1921 (Unionist—"National Liberal and Conservative Party")
12	Rt. Hon. WILLIAM LYON MACKENZIE KING.....	Dec. 29, 1921 - June 28, 1926
13	Rt. Hon. ARTHUR MEIGHEN.....	June 29, 1926 - Sept. 25, 1926
14	Rt. Hon. WILLIAM LYON MACKENZIE KING.....	Sept. 25, 1926 - Aug. 6, 1930
15	Rt. Hon. RICHARD BEDFORD BENNETT.....	Aug. 7, 1930 - Oct. 23, 1935
16	Rt. Hon. WILLIAM LYON MACKENZIE KING.....	Oct. 23, 1935 - Nov. 15, 1948
17	Rt. Hon. LOUIS STEPHEN ST. LAURENT.....	Nov. 15, 1948 - ...

4.—Members of the Seventeenth Ministry as at May 31, 1955

(According to precedence of Ministers)

NOTE.—A complete list of the members of Federal Ministries from Confederation to 1913 appears in the 1912 Year Book, pp. 422-429. Later Ministries will be found in subsequent editions of the Year Book.

Office	Occupant	Date of First Appointment ¹	Date of Appointment to Present Portfolio
Prime Minister and President of the Queen's Privy Council for Canada.....	Rt. Hon. LOUIS STEPHEN ST. LAURENT.....	Dec. 10, 1941	Nov. 15, 1948
Minister of Trade and Commerce and Minister of Defence Production.....	Rt. Hon. C. D. HOWE.....	Oct. 23, 1935	(Jan. 19, 1948 Mar. 22, 1951)
Minister of Agriculture.....	Rt. Hon. J. G. GARDINER.....	Oct. 28, 1935	Oct. 28, 1935
Minister of National Health and Welfare.....	Hon. PAUL MARTIN.....	Apr. 18, 1945	Dec. 12, 1946
Minister of National Revenue.....	Hon. J. J. MCCANN.....	Apr. 18, 1945	Apr. 18, 1945
Minister of Labour.....	Hon. M. F. GREGG.....	Jan. 19, 1948	Aug. 7, 1950
Secretary of State for External Affairs.....	Hon. L. B. PEARSON.....	Sept. 10, 1948	Sept. 10, 1948
Minister of Justice and Attorney General.....	Hon. S. S. GARSON.....	Nov. 15, 1948	Nov. 15, 1948
Minister of Veterans Affairs.....	Hon. ROBERT H. WINTERS.....	Nov. 15, 1948	Sept. 17, 1953
Minister of Public Works.....	Hon. HUGUES LAPOINTE.....	Aug. 24, 1949	Aug. 7, 1950
Minister of Finance and Receiver General.....	Hon. W. E. HARRIS.....	Jan. 18, 1950	July 1, 1954
Minister of Mines and Technical Surveys.....	Hon. GEORGE PRUDHAM.....	Dec. 13, 1950	Dec. 13, 1950
Postmaster General.....	Hon. ALcide Côté.....	Feb. 13, 1952	Feb. 13, 1952
Minister of Fisheries.....	Hon. JAMES SINCLAIR.....	Oct. 15, 1952	Sept. 17, 1953
Minister of National Defence.....	Hon. RALPH O. CAMPNEY.....	Oct. 15, 1952	July 1, 1954
Leader of the Government in the Senate and Solicitor General.....	Hon. WILLIAM R. MACDONALD.....	May 12, 1953	(May 12, 1953 Jan. 12, 1954)
Minister of Citizenship and Immigration.....	Hon. JOHN W. PICKERSGILL.....	June 12, 1953	July 1, 1954
Minister of Northern Affairs and National Resources.....	Hon. JEAN LESAGE.....	Sept. 17, 1953	Sept. 17, 1953
Minister of Transport.....	Hon. GEORGE C. MARLER.....	July 1, 1954	July 1, 1954
Secretary of State of Canada.....	Hon. ROCH PINARD.....	July 1, 1954	July 1, 1954

¹ Appointee was not necessarily sworn in on date given.

Administrative duties in the various departments of government became so burdensome during World War II that Parliamentary Assistants were appointed to assist six Cabinet Ministers with their parliamentary duties. The practice was extended after the War and at May 31, 1955 there were 11 Parliamentary Assistants, as follows:—

To Prime Minister.....	W. G. WEIR
To Minister of Agriculture.....	ROBERT MCCURRIN
To Minister of Fisheries.....	J. WATSON MACNAUGHT
To Minister of Veterans Affairs.....	C. E. BENNETT
To Minister of National Defence.....	J. A. BLANCHETTE
To Minister of Transport.....	L. LANGLOIS
To Postmaster General.....	T. A. M. KIRK
To Minister of Finance.....	W. M. BENEDICKSON
To Minister of National Health and Welfare.....	F. G. ROBERTSON
To Minister of Defence Production.....	JOHN H. DICKEY
To Minister of Public Works.....	M. BOURGET

The Privy Council.—The Queen's Privy Council for Canada is composed of about seventy members who are sworn of the Council by the Governor General on the advice of the Prime Minister and who retain their membership for life. The Council consists chiefly of present and former Ministers of the Crown. It does not meet as a functioning body and its constitutional responsibilities as adviser to the Crown in respect to Canada are performed exclusively by the Ministers who constitute the Cabinet of the day.

5.—Members of the Queen's Privy Council for Canada According to Seniority Therein as at May 31, 1955

NOTE.—In this list the prefix "The Rt. Hon." indicates membership in the United Kingdom Privy Council. Clerk of the Privy Council and Secretary to the Cabinet, R. B. BRYCE; Assistant Clerk of the Privy Council, A. M. HILL.

Member ¹	Date When Sworn In	Member ¹	Date When Sworn In
The Rt. Hon. ARTHUR MEIGHEN.....	Oct. 2, 1915	The Hon. ALPHONSE FOURNIER.....	Oct. 7, 1942
The Hon. ESIOFF LEON PATENAUDE.....	Oct. 6, 1915	The Hon. ERNEST BERTRAND.....	Oct. 7, 1942
The Hon. ALBERT SEVIGNY.....	Jan. 8, 1917	The Hon. LEO RICHER LAFLÈCHE.....	Oct. 7, 1942
The Hon. JAMES ALEXANDER CALDER.....	Oct. 12, 1917	The Hon. BROOKE CLAXTON.....	Oct. 13, 1944
The Hon. SYDNEY CHILTON MEWBURN.....	Oct. 12, 1917	The Hon. ANDREW GEORGE LATTA	
The Hon. THOMAS ALEXANDER CREAR.....	Oct. 12, 1917	McNAUGHTON.....	Nov. 2, 1944
The Hon. HENRY HERBERT STEVENS.....	Sept. 21, 1921	The Hon. JOSEPH ARTHUR JEAN.....	Apr. 18, 1945
The Hon. JAMES HORACE KING.....	Feb. 3, 1922	The Hon. LIONEL CHEVRIER.....	Apr. 18, 1945
The Hon. EDWARD JAMES McMURRAY.....	Nov. 14, 1923	The Hon. PAUL JOSEPH JAMES MARTIN ²	Apr. 18, 1945
The Rt. Hon. CHARLES VINCENT MASSEY.....	Sept. 16, 1925	The Hon. DOUGLAS CHARLES ABBOTT.....	Apr. 18, 1945
The Hon. CHARLES AVERY DUNNING.....	Mar. 1, 1926	The Hon. JAMES JOSEPH MCCANN ²	Apr. 18, 1945
The Hon. WILLIAM DAUM EULER.....	Sept. 25, 1926	The Hon. DAVID LAURENCE MACLAREN.....	Apr. 18, 1945
H. R. H. THE DUKE OF WINDSOR.....	Aug. 2, 1927	The Hon. THOMAS VIEN.....	July 19, 1945
The Hon. ARTHUR CHARLES HARDY.....	July 31, 1930	The Hon. WISHART MCLEA ROBERTSON.....	Sept. 4, 1945
The Hon. HUGH ALEXANDER STEWART.....	Aug. 7, 1930	The Hon. MILTON FOWLER GREGG ²	Sept. 2, 1947
The Hon. DONALD MATHESON SUTHER-		The Hon. ROBERT WELLINGTON MAY-	
LAND.....	Aug. 7, 1930	HEW.....	June 11, 1948
The Hon. THOMAS GEROW MURPHY.....	Aug. 7, 1930	The Hon. LESTER BOWLES PEARSON ²	Sept. 10, 1948
The Hon. WILLIAM DUNCAN HERRIDGE.....	June 17, 1931	The Hon. STUART SINCLAIR GARSON ²	Nov. 15, 1948
The Hon. SAMUEL GOREL.....	Aug. 14, 1935	The Hon. ROBERT HENRY WINTERS ²	Nov. 15, 1948
The Hon. LUCIEN HENRI GENDRON.....	Aug. 30, 1935	The Hon. FREDERICK GORDON BRAD-	
The Hon. WILLIAM EARL ROWE.....	Aug. 30, 1935	LEY.....	Apr. 1, 1949
The Hon. ONESIME GAGNON.....	Aug. 30, 1935	The Hon. CHARLES JOST BURCHELL.....	Apr. 1, 1949
The Hon. CHARLES GAVAN POWER.....	Oct. 23, 1935	The Hon. GASPARD FAUTEUX.....	May 16, 1949
The Rt. Hon. JAMES LORIMER LESLEY.....	Oct. 23, 1935	The Hon. HUGUES LAPOINTE ²	Aug. 25, 1949
The Hon. JOSEPH ENOIL MICHAUD.....	Oct. 23, 1935	The Hon. GARRELT EDOUARD RINFRET.....	Aug. 25, 1949
The Rt. Hon. CLARENCE DECATUR		The Hon. WALTER EDWARD HARRIS ²	Jan. 18, 1950
Howe ²	Oct. 23, 1935	The Hon. GEORGE PRUDHAM ²	Dec. 13, 1950
The Rt. Hon. JAMES GARFIELD GARD-		The Hon. GEORGE BLACK.....	Aug. 3, 1951
INER ²	Nov. 4, 1935	EARL ALEXANDER OF TUNIS.....	Jan. 29, 1952
The Hon. JAMES ANGUS MACKINNON.....	Jan. 23, 1939	The Hon. ALCIDE CÔTÉ ²	Feb. 13, 1952
The Hon. COLIN WILLIAM GEORGE		The Hon. JAMES SINCLAIR ²	Oct. 15, 1952
GIBSON.....	July 8, 1940	The Hon. RALPH OSBORNE CAMPNEY ²	Oct. 15, 1952
The Hon. JOSEPH THORARINN THORSON.....	June 11, 1941	The Hon. WILLIAM ROSS MACDONALD ²	May 12, 1953
The Hon. WILLIAM FERDINAND AL-		The Hon. GEORGE ALEXANDER DREW.....	May 12, 1953
PHONSE TURGEON.....	Oct. 8, 1941	The Hon. JOHN WHITNEY PICKERSGILL ²	June 12, 1953
The Rt. Hon. LOUIS STEPHEN ST.		The Rt. Hon. THIBAUDEAU RINFRET.....	Sept. 16, 1953
LAURENT ²	Dec. 10, 1941	The Hon. JEAN LESAGE ²	Sept. 17, 1953
The Rt. Hon. Sir WINSTON LEONARD		The Hon. PATRICK KERWIN.....	July 1, 1954
SPENCER CHURCHILL.....	Dec. 29, 1941	The Hon. GEORGE CARLYLE MARLER ²	July 1, 1954
		The Hon. ROCH PINARD ²	July 1, 1954

¹ Members of Her Majesty's Privy Council for Canada take rank *inter se* according to the dates of their being sworn in.

² Ranks as a member of the Cabinet.

³ Ranks as the Prime Minister of Canada.

6.—Duration and Sessions of Parliaments 1936-54

NOTE.—Similar information for the 1st to the 12th Parliaments, covering the period from Confederation to 1917 is given in the 1940 Year Book, p. 46, and that for the 13th to 17th Parliaments in the 1945 edition, p. 53.

Order of Parliament	Session	Date of Opening	Date of Prorogation	Days of Session	Sitting Days of House of Commons	Date of Election, Writs Returnable, Dissolution, and Length of Parliament ^{1,2}
18th Parliament.....	1st	Feb. 6, 1936	June 23, 1936	139	91	Oct. 14, 1935 ³ Nov. 9, 1935 ⁴ Jan. 25, 1940 ⁵ 4 y., 2 m., 16 d.
	2nd	Jan. 14, 1937	Apr. 10, 1937	87	62	
	3rd	Jan. 27, 1938	July 1, 1938	156	102	
	4th	Jan. 12, 1939	June 3, 1939	143	103	
	5th	Sept. 7, 1939	Sept. 13, 1939	7	6	
	6th	Jan. 25, 1940	Jan. 25, 1940	1	1	
19th Parliament ⁶	1st	May 16, 1940	Nov. 5, 1940	174	61	Mar. 26, 1940 ³ Apr. 17, 1940 ⁴ Apr. 16, 1945 ⁵ 5 y.
	2nd	Nov. 7, 1940	Jan. 21, 1942	441	105	
	3rd	Jan. 22, 1942	Jan. 27, 1943	371	124	
	4th	Jan. 28, 1943	Jan. 26, 1944	364	120	
	5th	Jan. 27, 1944	Jan. 31, 1945	371	136	
	6th	Mar. 19, 1945	Apr. 16, 1945	29	19	
20th Parliament.....	1st	Sept. 6, 1945	Dec. 18, 1945	104	76	June 11, 1945 ³ Aug. 9, 1945 ⁴ Apr. 30, 1949 ⁵ 3 y., 8 m., 22 d.
	2nd	Mar. 14, 1946	Aug. 31, 1946	171	118	
	3rd	Jan. 30, 1947	July 17, 1947	169	115	
	4th	Dec. 5, 1947	June 30, 1948	209	119	
	5th	Jan. 26, 1949	Apr. 30, 1949	95	59	
21st Parliament.....	1st	Sept. 15, 1949	Dec. 10, 1949	87	64	June 27, 1949 ³ Aug. 25, 1949 ⁴ June 13, 1953 ⁵ 3 y., 9 m., 20 d.
	2nd	Feb. 16, 1950	June 30, 1950	135	90	
	3rd	Aug. 29, 1950	Jan. 29, 1951	154	17	
	4th	Jan. 30, 1951	Oct. 9, 1951	253	105	
	5th	Oct. 9, 1951	Dec. 29, 1951	82	56	
	6th	Feb. 28, 1952	Nov. 20, 1952	267	87	
	7th	Nov. 20, 1952	May 14, 1953	176	108	
22nd Parliament.....	1st	Nov. 12, 1953	June 26, 1954	226	139	Aug. 10, 1953 ³ Oct. 8, 1953 ⁴
	2nd	Jan. 7, 1955	..	..	..

¹ The ordinary legal limit of duration for each Parliament is five years.

² Duration of Parliament in

years, months and days. The life of a Parliament is counted from the date of return of election writs to the date of dissolution, both days inclusive (B.N.A. Act, Sect. 50).

³ Date of general election.

⁴ Writs returnable.

⁵ Dissolution of Parliament.

⁶ During the war years Parliament was kept in almost continuous session. When prorogation took place it was followed immediately by a new session. During long adjournments provision was made whereby the Speaker could reconvene Parliament before the date previously set for reassembly.

THE PRIVY COUNCIL OFFICE AND CABINET SECRETARIAT IN RELATION TO THE DEVELOPMENT OF CABINET GOVERNMENT*

The first members of the Queen's Privy Council for Canada were sworn in at Ottawa by the Governor General, Viscount Munk, on Monday, July 1, 1867. They took in addition the oaths of office as heads of the various departments of government to which they had been named. At the same time a Clerk of the Privy Council was appointed and duly sworn.

By these formal steps the Central Executive of the new Dominion of Canada came into being. The second meeting of the Governor General in Council was held on the succeeding day, July 2, when among other things a report of "a Committee of Council" recommending provision for ordinary expenditures and constitution of the Treasury Board was submitted and approved.

The new Executive could call on a staff with considerable experience in this field of government. The new Clerk of the Privy Council, who had been Clerk of the Executive Council of the Province of Canada, had twenty-six years' service and his assistant had been with him for fourteen years. Moreover this staff was already installed in office quarters, in the Eastern Block of the Departmental Buildings at the new provincial capital of Ottawa, which they occupied in February 1865, and the Executive Council had met there

* Prepared by W. E. D. Halliday, Registrar of the Cabinet.

regularly in what was now to become the Privy Council Chamber. Authority for the continuance of this office, although under a new name, is to be found under the general provision for continuance of duties in Sect. 130 of the British North America Act.

With this continuity of administration it is understandable that the procedures followed and the form of the instruments used in the new Privy Council Office would be similar to Executive Council Office practice. The use of the Order in Council and the Minute of Council continued in a form almost identical with that drafted prior to Confederation.

The Central Executive in Canada actually is of a dual form. On the one hand there is the Queen's Privy Council (with the Prime Minister as President of the Council) functioning as a committee made up of those Privy Counsellors who are members of the administration of the day, and on the other there is the Cabinet, headed by the Prime Minister and composed of Ministers of the Crown. The Committee of Council and the Cabinet have always had identical membership and may be considered as two aspects of the same constitutional organism.

The evolution of Cabinet government in Great Britain began more than a century before Confederation. A vital principle was the withdrawal of the Sovereign from an active part in government and the making of executive decisions by a body of Ministers of the Crown who had the confidence of the House of Commons and who accepted entire responsibility for acts done in the name of the Crown.

In Canada the Cabinet system developed in general along lines similar to those in Great Britain but of course much later in time. It was a natural corollary of the struggle for responsible government. Although basically similar to British practice, it acquired a distinctive Canadian character. Such matters as size and geographical or sectional representation have contributed to this. The stages of withdrawal of the Sovereign from active government were reflected in Canada in similar changes in the position of the Sovereign's representative.

The beginnings of Cabinet government in Canada, as known today, were not very evident before the late 1840's. The Act of Union of the two Canadas, proclaimed in 1841, provided for an elected Legislative Assembly and an appointed Legislative Council. Executive authority was vested in the Governor General who was provided with an Executive Council whom he appointed. Lord Sydenham, the first incumbent after Union, introduced what might be called 'ministerial government' by grouping administrative agencies into departments, each under a Minister whom he chose from the Legislative Assembly and appointed to his Executive Council, therefore in effect making the Ministers responsible both to the Assembly and to himself. It has been said that he combined together the duties of Governor General, Prime Minister and Party Leader. He presided over meetings of Council and felt free to ignore advice from either Council or Assembly. Even when the principle of responsible government had been accepted in 1847 Lord Elgin, the Governor General, attended meetings of Council and took an active part in the deliberations.

By 1858 there had been significant developments and true Cabinet government was emerging. Sir Edmund W. Head, the then Governor General, in writing to the Colonial Secretary, expressed the view that the presence of the Governor as a regular and indispensable rule during discussions in Council "would check all freedom of debate and embarrass himself as well as his advisors". He indicated that it was a general rule for executive business to be carried on in the Council Chamber without the Governor General being present. The Council met as a committee under a President appointed by the Governor General to preside in his absence. Minutes arising from discussions, after being drawn up by the Clerk, were signed by the President and laid before the Governor General for signature of approval, either in the Council Chamber, the Governor's own rooms in the Council Office or at his home.*

* See "Cabinet Government in Canada", by J. R. Mallory, *Political Studies*, Vol. 11, No. 2, June 1954, a succinct article on Cabinet development; also the comprehensive study on Cabinet government by Norman McL. Rogers in the January, February and April 1933 issues of *The Canadian Bar Review*.

These conventions were applied after Confederation to the new Privy Council for Canada, and references to the Council functioning as a Cabinet became general. Furthermore membership in the Canadian Privy Council was made for life as in Great Britain, so that the executive now became the Committee of the Privy Council, in its formal and advisory aspect, and the Cabinet, in its informal, political and policy-making guise. Nevertheless there was no recognition of the changed state of affairs either in the British North America Act constituting the "executive power" or in the Commission and Instructions issued to the Governors General which still envisaged their presiding over meetings of the Privy Council and, under certain circumstances, dissenting with advice tendered.

Although in general these instructions were interpreted along the lines set out by Sir Edmund Head, there were differing views. The Earl of Dufferin, soon after his arrival in 1872, took up the question of attendance with John A. Macdonald, the then Prime Minister. He indicated that he had no wish to interfere with the administration and had noted the tendency "for the Governor General's council to transmute itself into the Prime Minister's cabinet". However he felt the right of the Governor General to preside over Council should not be allowed to fall into disuse,* and on several occasions he met with his Council.

During Lord Dufferin's term of office, consideration was given by the British Government to setting up permanent letters patent and instructions for governors of colonies. The draft submitted to Canada was severely objected to by the then Minister of Justice (Mr. E. Blake) as bearing no relation to the Dominion status of Canada, made up of federally united provinces with a constitution similar in principle to that of the United Kingdom. The Minister pointed out that all the incongruous provisions of the previous instruments were repeated and that the Governor General would be given an active voice in the executive government, a position long abandoned by the Sovereign in Great Britain. The substance of these protestations was accepted and the new instruments, which guided Lord Dufferin's successor, Lord Lorne, and subsequent Governors General, were suitably revised. This was an important step in self government as the effect was to recognize the extension of Cabinet government to Canada and to make the relation of the Governor General to the central executive analogous to that of the Sovereign to the British Cabinet.

The Minute of Council, assented to formally by the Governor General, was a convenient instrument at hand and was used for a variety of purposes. For many of these it was really an inappropriate instrument. As early as 1873 it was suggested to the Governor General by Mr. Macdonald, the Prime Minister, that Minutes of Council should be treated as the conclusions of the Cabinet and the Order form be only used for formal instruments adopted when the Governor General was present or supposed to be present. He still thought it necessary however at this early stage of evolution for the Minute to be submitted to the Governor General for his sanction as advice tendered by his responsible advisors. Nothing seems to have come of this and nearly seventy years passed before recorded Cabinet Conclusions came into use. Deliberations of Cabinet, as such, continued to be unrecorded unless the Cabinet resolved itself into Council where a policy decision required the passing of a Minute. The public emphasis was on meetings of Council, although the dual position was recognized by the omnibus term 'Cabinet-Council' which came into some use.

With the steady growth of Canada and consequent increase in public business, the desirability of distinguishing between the functions of the two forms of the Central Executive however became more and more evident.

As mentioned before, in earlier years the Minute of Council was used for a wide variety of purposes, many of which are now achieved by other means. For example, at one time despatches on external relations came from the Colonial Office in Great Britain through the Governor General and were referred to departments by the Privy Council; replies were agreed to by a Minute of Council and transmitted back through the Governor

* Rogers, *op. cit.*

General. As the country developed and international relations increased in number and complexity this system became inadequate and a separate department of External Affairs was set up in 1909. The practice of using a formal instrument like the Minute of Council for almost all the business of the executive was the subject of occasional comment from successive Governors General. Lord Stanley of Preston complained to the President of the Privy Council of the difficulties and delays of this practice and in 1910 Earl Grey wrote Sir Wilfrid Laurier, the Prime Minister, at some length, wondering at the continuation of a system which compelled Council to give a large portion of its time to considering a mass of business on small details of administration and at the quantity of Minutes, all signed by the President, which came to him daily for approval. He thought it should have been possible for routine matters of this nature to have been approved by the Minister responsible or, if the authority of the Governor General was legally required, then could not all such Minutes be bound under one covering Minute for signature.

The defects of a system which placed a heavy burden of detailed departmental work not only on Council but on Ministers individually and precluded them from giving full attention to the more important questions of national policy seems to have been recognized at Confederation. However the union of the Provinces posed other and more urgent problems so that generally the organization and methods used in the old Province of Canada were merely continued into the wider field of the Dominion. The continued expansion of this system with the growth of the country disclosed and aggravated its faults.*

In 1912, Sir George Murray was made a Commissioner to inquire into the organization of the Public Service of Canada. In his report he stated that nothing had impressed him so much as the almost intolerable burden the then system of transacting public business imposed on the Ministers themselves. He pointed out that almost all executive acts required the sanction of the Governor in Council, that there were large numbers of Orders (and Minutes) of Council with subject matters ranging from questions of the highest importance to matters of petty routine, that statutes continued to contain those requirements for collective responsibility for ministerial acts by approval of the Governor in Council which had been thought necessary safeguards in 1867 but by now were not required. He suggested as remedies that many powers then vested in the Governor in Council should be devolved on individual Ministers and, for this purpose, that a committee of Ministers review the duties discharged by Council and select those which could be safely left to the discretion of individual Ministers; moreover, that a distinction should be drawn between a meeting of the Cabinet and a meeting of Council so that matters of small intrinsic importance but which required formal sanction by the Governor in Council could be dealt with by a minimum quorum of Council, and Cabinet would be assisted thereby in performing its proper function of deciding questions of high policy. This report led to instructions to the Treasury Board by a Minute of Council in September 1913 to review the duties discharged by the Governor in Council and to report on those that might be left to the discretion of Ministers or a Committee of Ministers.

For several reasons no report materialized and the outbreak of World War I put aside further consideration of the whole question. However the War began to influence the organization of the executive in 1916, when three subcommittees of Council were established to deal with problems of censorship, labour and recruiting, and scientific and industrial research. When the Union Government was formed late in 1917, it was decided, in order to co-ordinate the war effort for maximum effect and also to distribute more evenly the burden on Ministers, to divide the Cabinet into two committees, the War Committee and the Reconstruction and Development Committee, the only members in common being the Prime Minister and the Minister of Finance. These committees had wide terms of reference and there was provision for the appointment of secretaries. Although

*See memorandum, Aug. 30, 1913, Adam Shortt to Sir Robert Borden, P.A.C. Borden Papers.

a secretary is known to have been appointed to the Committee on Reconstruction and Development in January 1918, no written records of the deliberations of these committees have survived except where, in view of the requirement that the committees report to Council, recommendations emerged as formal Minutes or Orders. Another innovation was the appointment in 1916 of two members of the House of Commons as, respectively, a Parliamentary Secretary to the Minister of Militia and Defence and a Parliamentary Under-Secretary of State for External Affairs. For a short time in 1918 there was also a Parliamentary Secretary for Soldiers' Civil Re-establishment.

These interesting developments in the machinery of the executive in Canada were no doubt influenced by what had taken place in this field in the United Kingdom during the War. There, various devices of the Cabinet committee nature, with advisory experts, had been used from soon after the War started. Records were frequently kept of decisions and they were communicated to the departments concerned. Some of these devices were not successful and when Mr. Lloyd George succeeded Mr. Asquith as Prime Minister, one of his first acts was to establish an entirely new type of body, a small War Cabinet made up of Ministers who, with one exception, had no departmental responsibility and were able to meet almost continually to make rapid decisions when necessary.

Another British innovation of pronounced and lasting effect provided the War Cabinet with a secretariat. In effect this was an extension of the secretariat for the Committee of Imperial Defence and for the War Committee of the early war years. Under the new Secretary to the Cabinet, agenda and documents were prepared and circulated, records kept of deliberations, decisions sent out for action, secretaries provided for committees and constant liaison kept with departments.

This organized approach to Cabinet business, so different from what had been the practice for many years, of private, informal meetings of the Cabinet without any written record except for a personal report by the Prime Minister to the Sovereign, proved its worth. With a return to the normal Cabinets of prewar days in 1919 the Secretariat was retained as it had become too valuable to discard—but not without some opposition from those accustomed to earlier practices—and is now a characteristic part of the British Cabinet system.

In Canada, although the prewar customs came back, thinking on reforms of the central executive evidently continued, influenced by United Kingdom practice and Canadian war experience. In 1919 a report of a special committee of the Senate on the Machinery of Government under the chairmanship of Senator McLennan stressed the need for reorganization of the Canadian Cabinet, particularly by a reduction in the number of Ministers and, to relieve the burden on Ministers so that they would have more time to deliberate as a policy making body, by providing them with Parliamentary Assistants and—as was then British practice—with a Cabinet Secretariat to expedite the carrying on of public business. The Secretary to the Cabinet would be responsible for such things as keeping what notes were desirable, for preparing and circulating agenda and information on items in advance and for communicating decisions to Ministers. It was also hoped that any revision of ministerial business would include the reform suggested by Sir George Murray, i.e., that a special and small committee of Ministers take over the passing of formal Orders in Council.

No firm steps were taken to put these recommendations into practice but Mr. W. L. Mackenzie King, then Prime Minister, tried out in peacetime the experiment of a Parliamentary Under-Secretary for a year in 1921-22. Later he had an item placed in the estimates of the Department of External Affairs to provide for a salary for a Secretary to the Prime Minister (he was also Secretary of State for External Affairs at the time). In speaking of it in the House of Commons in April 1927, Mr. King explained that it was an executive assistant he had in mind, filling a position corresponding to that of a deputy

minister and more or less to that of the Secretary to the Cabinet in Great Britain, and that he felt this assistant should be chosen by the Prime Minister and be outside the provisions of the Civil Service Act. The item was agreed to but with an amendment requiring any incumbent to retire with his Prime Minister unless the succeeding Prime Minister wished to retain him.

An actual appointment of this nature does not appear to have been made at the time but the pattern was taking form. In the latter half of the 1930's a growing complexity of government, important Commonwealth developments and a disturbed international situation all pointed to an increasing need for some of the procedural remedies suggested earlier. A subcommittee of the Privy Council was established in August 1936 called the Canadian Defence Committee, under the chairmanship of the Prime Minister. In 1938 Mr. King, in line with his proposals some ten years before, appointed Mr. A. D. P. Heeney as Principal Secretary in a Prime Minister's Office that had nearly doubled its staff during that period.

One of Mr. Heeney's duties was to act as Secretary to the Canadian Defence Committee which was generally known as the Defence Committee of the Cabinet. With the advent of World War II there was a proliferation of ministerial and other committees with the object of spreading the increased pressure of work on the Ministers and settling special problems in the most expeditious manner. Before hostilities started in 1939 several subcommittees of Council were established one of which, the Emergency Council, was designed as a supervisory body to the remainder and to view the war effort as a whole. It was composed of senior Ministers and took over the duties of the Defence Committee of prewar days. Mr. Heeney continued to act as Secretary, and minutes were kept. A few months later there was a substantial reorganization and the subcommittees of Council were replaced by committees of the Cabinet, a more appropriate description. Of these the War Committee was the principal one, replacing the Emergency Council. It consisted of a small number of Ministers selected by the Prime Minister because of various qualifications for the effective control and co-ordination of the war effort.

An account in some detail of the whole war organization of the Government including this system of committees and their functions was given to the House of Commons by the Prime Minister, Mr. King, on July 8, 1940.

The development of committees with a consequent need for Agenda, Minutes and Circulated Conclusions made the provision of secretarial assistance imperative. It was considered most suitable to associate this work with the Privy Council Office and in May 1940 when Mr. Heeney was appointed to the position of Clerk of the Privy Council he was also made the first Secretary to the Cabinet.

This extension of the duties of the Clerk of the Privy Council was in effect a recognition of the dual nature of the central executive in Canada. The functional difference between Cabinet and Council has not always been clearly recognized and the terms are commonly combined or used as synonyms. The difference however is significant and is pointed up by the ever increasing complexity of the problems facing the Government. Briefly, Council is the body established by statute for the purpose of tendering advice to the Crown which, when approved, emerges as a formal instrument, the Order or Minute of Council, having full force and effect in law. Cabinet on the other hand is a body having no legal standing but deriving its authority and functions from unwritten conventions and practice. It is concerned with making policy decisions, which may require submission to Council to implement and the issue of a formal instrument. Implementation often takes other forms however such as a statement in the House of Commons, a Cabinet directive to departments, a communication to foreign governments, the introduction of legislation in Parliament and so on.

The duties of the new Secretary to the Cabinet are set out in the appointing Order in Council as:—

- (a) the preparation for the approval of the Prime Minister of such agenda for Cabinet meetings as may be required;
- (b) the keeping of such notes of Cabinet meetings and conclusions thereof as may be required;
- (c) the preparation and submission to members of the Cabinet in advance, of such information as may be necessary for its deliberation;
- (d) the communication to Ministers, departments and others concerned of the decisions of the Cabinet;
- (e) the maintenance of liaison between the Cabinet and Committees thereof; and
- (f) such other duties as may from time to time be assigned to him by the Governor in Council.

Here was an important step in the development of Cabinet government in Canada encouraged, of course, by the pressures of wartime. It led to the gradual adoption of procedures along the lines of several of the recommendations of the Murray and McLennan reports and also to a clearer understanding of the proper functions of the Cabinet as a policy making and executive body as distinct from those of the Governor General in Council, concerned with the formal implementation of advice tendered to the Crown. The course taken paralleled what had happened already in the United Kingdom and procedurally owed much to British experience. At the same time its evolution was along distinctive lines in keeping with Canadian conditions and conventions.

Another wartime implementation of earlier recommendations was the appointment of Parliamentary Assistants to various Ministers for the first time in 1943—a practice that has persisted throughout the postwar years.

For some years, the work of the new Secretary to the Cabinet was concerned principally with the Cabinet War Committee which met one or more times a week and was the most active and important of the various ministerial committees. Regular procedures developed for recording discussion and decisions. Agenda were circulated before meetings together with explanatory memoranda identified by document numbers, decisions were communicated for action where required and a routine follow-up on this made with departments.

To assist the Secretary in this new and businesslike approach a small addition was made to the Privy Council Office staff and as the volume of committee work increased there was a modest enlargement. These additions included officers on loan from both civil and military departments and temporary appointees from outside the public service and the group became known as the Cabinet Secretariat. In addition to working for ministerial committees, the group provided secretaries for a number of related inter-departmental committees. A small map room was organized and operational summaries provided for the information of the War Committee. The Secretary of the Chiefs of Staff Committee later became a member of the Secretariat. When joint defence projects with the United States in the northwest made it advisable to appoint a special commissioner in the area he was also associated with the Secretariat, as was the special military adviser to the Prime Minister.

The small organization of the war years served a useful purpose and in the transition years to peacetime conditions there was no question of its abolition. After the demise of the Cabinet War Committee in 1945 the secretarial procedures that had been developed about it were applied regularly to meetings of the Cabinet, as well as to existing and new Cabinet committees. Conclusions were recorded, a new series of Cabinet documents started and decisions communicated for action.*

As time went on there were of course some changes. For instance the Secretariat of the Chiefs of Staff Committee moved back to National Defence when a full time chairman of the committee was appointed, the establishment of the Privy Council Office was re-organized

* For an authoritative and detailed account of the war and transition periods see "Cabinet Government in Canada; some recent developments in the Central Executive", by A. D. P. Heeney, *Canadian Journal of Economics and Political Science*, Vol. 12, No. 3, August 1946.

and grades of Privy Council officers instituted. In the interests of efficiency and economy certain administrative functions in the Prime Minister's Office and the Privy Council Office were combined and the two offices closely integrated. Changes were also made in the form of the Conclusions and a system of appropriately classified individual records of decisions requiring action was instituted to assist the departments in carrying out these decisions.

Mr. Heeney, after nine successful years of organizing, developing and directing his offices through the war, transition and postwar periods, left in March 1949 to become the Under Secretary of State for External Affairs. He was succeeded by Mr. Norman Robertson, the Canadian High Commissioner in London. In 1952 Mr. Robertson returned to London and his place was taken by Mr. J. W. Pickersgill, then Special Adviser to the Prime Minister. In June 1953 Mr. Pickersgill was sworn in to the Administration as Secretary of State and in September of that year Mr. R. B. Bryce, who was then the Secretary to the Treasury Board, was designated Clerk of the Privy Council and Secretary to the Cabinet effective Jan. 1, 1954.

For administration purposes, the Privy Council Office is regarded as a Department of Government under the Prime Minister, as President of the Privy Council. The Clerk of the Privy Council is considered as a deputy head and takes precedence as the first of the chief officers of the Public Service. As has been seen, in addition to the original duties of the office in connection with the Queen's Privy Council for Canada, new and specialized duties for the Cabinet have been added and there has been close integration also with the work of the Prime Minister's Office.

The advantages of an orderly approach in Cabinet business are obvious. Prior notice of items and adequate documentation help Ministers to deal efficiently and speedily with problems. Some idea is given of relative importance and discussion expedited. With the growing complexity of government business and increasing ministerial responsibilities, the value of a firm record of a decision, available for those who have to act on it, is self-evident.

In addition to the duties of the Secretary to the Cabinet and his staff in these matters there is another and by no means less important one; that is in co-ordination—in seeing that before a decision is taken the Prime Minister and Cabinet Ministers have all the relevant information, that when a decision concerns several departments its effects are understood and particularly that the financial implications are clearly known. In addition so far as possible agreement must be secured when there is a difference of opinion between departments so as to reduce the work falling on the Cabinet. All this means that there must be continual reference to and discussion with other deputies, heads of agencies, and officials. One commonly used device for obtaining this collective approach, particularly when dealing with matters on which the Cabinet asks for further examination and report, is the interdepartmental committee. This is sometimes associated with a Cabinet committee but quite often is of an ad hoc nature and reports directly to the Cabinet. The Privy Council Office usually provides secretaries for such committees and may be represented on them; at some meetings the Secretary to the Cabinet acts as chairman.

As regards the Privy Council work mention has been made of the former wide use of the formal Minute of Council for recording all kinds of government business. These Minutes are commonly classed with Orders but there is a difference. Both are the end results of formal advice to the Crown and are assented to by the Governor General. The Order however is normally employed when the Governor in Council acts under a specific statute or under the prerogative and orders that something be done. The Minute on the other hand is less formal and sets out the authority for something to be done such as for a Minister to enter into an agreement, for signing powers or for receipt of a report.

In time the use of the Minute became more restricted but such factors as the growing volume and scope of government work, the partiality of drafters of legislation to require the collective responsibility of the Governor General in Council for action under the statute, and restrictions on ministerial approval of contracts kept the volume of both

Orders and Minutes of Council ever on the increase. During the war years the number of these passed, including Treasury Board Minutes requiring approval of Council, was close to 15,000 a year. To cope with this volume all Orders and Minutes of a routine administrative nature were examined and cleared prior to a Council meeting by a special committee of Ministers called the Government Business Committee. After the War this practice was continued and extended with the establishment of a Special Committee of Council to dispose of formal business where policy had been settled. Matters calling for a policy decision are first referred to the Cabinet and, if approved, any necessary Order or Minute is disposed of, either at the time by the meeting resolving itself into the Committee of Council for that purpose or at a subsequent meeting of the Special Committee.

The introduction of a recorded Cabinet decision and its circulation for action tends to reduce the use of the formal Minute as it would have been considered necessary in the past to issue a Minute of Council for many of the decisions taken. However the enactment by Parliament in 1951 of the Financial Administration Act led to a substantial reduction in the routine functions of Council. Under this Act certain powers formerly exercised by the Governor in Council under the Civil Service Act, the Civil Service Superannuation Act, the Defence Services Pension Act and the Royal Canadian Mounted Police Act were delegated to the Treasury Board. In addition the Government Contracts Regulations of 1952 and the Regulations relating to the acquisition of lands by government departments, also made in that year, delegated to the Board and to the responsible Ministers the greater part of the powers of the Governor in Council relating to purchase, service and construction contracts, and the leasing and acquisition of lands for the Crown.

In keeping with the development of the work of Council as outlined above certain improvements have been made during the past ten years in bringing regulations and orders of general effect to the notice of all concerned. Prior to World War II, Regulations and Statutory Orders were published in the *Canada Gazette* as they were made. During the war years all War Orders and Regulations were published separately and in more convenient form. At the end of the War it was felt that this practice should be continued for all Regulations and Statutory Orders and, in January 1947, Part II of the *Canada Gazette* made its first appearance. In 1950 the Regulations Act was passed providing for the continued publication of Part II and for the promulgation therein under the supervision of the Clerk of the Privy Council of all Statutory Orders and Regulations. To make these even more accessible a consolidation of Statutory Orders and Regulations was published in 1949. A second consolidation was scheduled in 1955.

The developments outlined above aimed at improving and expediting the work of the Central Executive and clarifying the position of the Cabinet can be seen to have followed a fairly logical pattern. Although decades may have elapsed criticisms have been answered and considered recommendations have finally been put into effect. The development owes much to earlier British experience and practice. What has resulted has a character essentially Canadian, reflecting the federal nature of the Dominion, the sectional representation of the Cabinet and the peculiar position and functions of the Queen's Privy Council for Canada which, that of the United Kingdom excepted, is the only one of its kind within the British Commonwealth.

Subsection 2.—The Legislature

The federal legislative authority is vested in the Parliament of Canada consisting of the Queen, an Upper House styled the Senate, and the House of Commons. Bills may originate in either the Senate or the House subject to the provisions of Sect. 53 of the British North America Act, 1867 which provides that Bills for the appropriation of any part of the public revenue or the imposition of any tax or impost shall originate in the House of Commons. Bills must pass both Houses and receive Royal Assent before becoming law. In practice most Public Bills originate in the House of Commons although there has been a marked increase recently in the introduction of Public Bills in the Senate. Private Bills usually originate in the Senate. (See Chap. XXIX for current legislation.)

Under Sect. 91 of the British North America Acts, 1867-1952 the legislative authority of the Parliament of Canada extends to the following matters: the amendment of the Constitution of Canada (subject to certain exceptions); the public debt and property; the regulation of trade and commerce; unemployment insurance; the raising of money by any mode or system of taxation; the borrowing of money on the public credit; postal service; the Census and statistics; militia, military and naval service, and defence; the fixing of and providing for the salaries and allowances of civil and other officers of the Government of Canada; beacons, buoys, lighthouses and Sable Island; navigation and shipping; quarantine and the establishment and maintenance of marine hospitals; sea coast and inland fisheries; ferries between a province and any British or foreign country or between two provinces; currency and coinage, banking, incorporation of banks and the issue of paper money; savings banks, weights and measures; bills of exchange and promissory notes; interest; legal tender; bankruptcy and insolvency; patents of invention and discovery; copyrights; Indians and lands reserved for the Indians; naturalization and aliens; marriage and divorce; the criminal law, except the constitution of courts of criminal jurisdiction, but including the procedure in criminal matters; the establishment, maintenance and management of penitentiaries; such classes of subjects as are expressly excepted in the enumeration of the classes of subjects by these Acts assigned exclusively to the legislatures of the provinces.

Under Sect. 95 the Parliament of Canada may make laws in relation to agriculture and immigration concurrently with provincial legislatures although federal legislation is paramount in the event of conflict. By the British North America Act, 1951 (14-15 Geo. VI, c. 32) it was declared that the Parliament of Canada might make laws in relation to old age pensions in Canada but no such law shall affect the operation of any provincial laws in relation to old age pensions.

The Senate.—From an original membership of 72 at Confederation the Senate, through the addition of new provinces and the general growth of population, now has 102 members, the latest change in representation having been made on the admission of Newfoundland to Confederation in 1949. The growth of representation in the Senate is traced in the 1940 Year Book, pp. 47-49, and is summarized by provinces in Table 7.

7.—Representation in the Senate since Confederation, 1867

Province	1867	1870	1871	1873	1882	1887	1892	1903	1905	1915-1948	1949-1954
Ontario.....	24	24	24	24	24	24	24	24	24	24	24
Quebec.....	24	24	24	24	24	24	24	24	24	24	24
Atlantic Provinces.....	24	24	24	24	24	24	24	24	24	24	30
Nova Scotia.....	12	12	12	10	10	10	10	10	10	10	10
New Brunswick.....	12	12	12	10	10	10	10	10	10	10	10
Prince Edward Island.....	...	...	...	4	4	4	4	4	4	4	4
Newfoundland.....	...	...	...	...	...	...	...	...	...	...	6
Western Provinces.....	...	2	5	5	6	8	9	11	15	24	24
Manitoba.....	...	2	2	2	3	3	4	4	4	6	6
British Columbia.....	...	...	3	3	3	3	3	3	3	6	6
Saskatchewan.....	...	...	...	...	...	...	...	...	...	6	6
Alberta.....	...	...	...	...	...	2	2	4	4	6	6
Totals.....	72	74	77	77	78	80	81	83	87	96	102

8.—Members of the Senate by Province as at May 31, 1955

Speaker.....	The Hon. WISHART McLEA ROBERTSON
Clerk of the Senate and Clerk of Parliaments....	LESLIE CLARE MOYER
Leader of the Government.....	The Hon. WILLIAM ROSS MACDONALD
Leader of the Opposition.....	The Hon. JOHN THOMAS HAIG

Ranked according to seniority, by province. All Senators are entitled to the designation "The Honourable".

Province and Name of Senator	P.O. Address	Province and Name of Senator	P.O. Address
Newfoundland— (5 Senators—1 vacancy)		Ontario— (21 Senators—3 vacancies)	
BAIRD, ALEXANDER BOYD.....	St. John's	HARDY, ARTHUR CHARLES.....	Brockville
PETTEN, RAY.....	St. John's	MCGUIRE, WILLIAM HENRY.....	Toronto
PRATT, CALVERT C.....	St. John's	WILSON, CAIRINE REAY.....	Ottawa
BASHA, MICHAEL G.....	Curling	FALLIS, IVA CAMPRELL.....	Peterborough
BRADLEY, FREDERICK G.....	Bonavista	LAMBERT, NORMAN PLATT.....	Ottawa
		HAYDEN, SALTER ADRIAN.....	Toronto
		PATERSON, NORMAN McLEOD.....	Fort William
		DUFFUS, JOSEPH JAMES.....	Peterborough
		EULER, WILLIAM DAUM.....	Kitchener
		DAVIES, WILLIAM RUPERT.....	Toronto
		CAMPRELL, GORDON PETER.....	Toronto
		TAYLOR, WILLIAM HORACE.....	Brantford
		BISHOP, CHARLES LAWRENCE.....	Ottawa
		ROEBUCK, ARTHUR WENTWORTH.....	Toronto
		FARQUHAR, THOMAS.....	Little Current
		FRASER, WILLIAM ALEXANDER.....	Trenton
		GOLDING, WILLIAM HENRY.....	Seaforth
		WOODBROW, ALLAN L.....	Toronto
		BRADETTE, JAMES A.....	Cochrane
		CONNOLLY, JOHN J.....	Ottawa
		MACDONALD, WILLIAM ROSS.....	Brantford
Prince Edward Island— (3 Senators—1 vacancy)		Manitoba— (4 Senators—2 vacancies)	
McINTYRE, JAMES PETER.....	Mount Stewart	HAIG, JOHN THOMAS.....	Winnipeg
GRANT, THOMAS VINCENT, M.D....	Montague	BEAURIEN, ARTHUR LUCIEN.....	St. Jean Baptiste
BARBOUR, GEORGE H.....	Charlottetown	CRERAR, THOMAS ALEXANDER.....	Winnipeg
		HOWDEN, JOHN POWER.....	Norwood Grove
Nova Scotia— (7 Senators—3 vacancies)		Saskatchewan— (6 Senators)	
QUINN, FELIX PATRICK.....	Bedford	CALDER, JAMES ALEXANDER.....	Regina
ROBERTSON, WISHART McLEA.....	Truro	MARCOTTE, ARTHUR.....	Ponteix
KINLEY, JOHN JAMES.....	Lunenburg	HORNER, RALPH BYRON.....	Blaine Lake
McDONALD, JOHN ALEXANDER.....	Halifax	ASELTINE, WALTER MORLEY.....	Rosetown
COMEAU, JOSEPH WILLIE.....	Comeauville	STEVENSON, JOHN JAMES.....	Prince Albert
ISNOR, GORDON B.....	Halifax	WOOD, THOMAS H.....	Regina
HAWKINS, CHARLES G.....	Milford Station		
New Brunswick— (6 Senators—4 vacancies)		Alberta— (5 Senators—1 vacancy)	
VENIOT, CLARENCE JOSEPH.....	Bathurst	BLAIS, ARISTIDE.....	Edmonton
McLEAN, ALEXANDER NEIL.....	Saint John	GERSHAW, FRED WILLIAM.....	Medicine Hat
PIRIE, FREDERICK WILLIAM.....	Grand Falls	ROSS, GEORGE HENRY.....	Calgary
BURCHILL, GEORGE PERCIVAL.....	South Nelson	MACKINNON, JAMES ANGUS.....	Edmonton
FERGUSON, MURIEL McQUEEN.....	Fredericton	STAMBAUGH, J. WESLEY.....	Bruce
LEGER, AUREL D.....	Grand Digue		
Quebec— (17 Senators—7 vacancies)		British Columbia— (6 Senators)	
RAYMOND, DONAT.....	Montreal	KING, JAMES HORACE.....	Vancouver
HUGESSEN, ADRIAN KNATCHBULL.....	Montreal	FARRIS, JOHN WALLACE DE BEQUE.....	Vancouver
HOWARD, CHARLES BENJAMIN.....	Sherbrooke	TURGEON, JAMES GRAY.....	Vancouver
GOUIN, LÉON MERCIER.....	Montreal	McKEEN, STANLEY STEWART.....	Vancouver
VIEN, THOMAS.....	Outremont	REID, THOMAS.....	New Westminster
DU TREMPLAY, PAMPHILE RÉAL.....	Montreal	HODGES, NANCY.....	Victoria
BOUCHARD, TÉLÉSPHORE DAMIEN.....	St. Hyacinthe		
DAIGLE, ARMAND.....	Montreal		
VAILLANCOURT, CYRILLE.....	Lévis		
NICOL, JACOB.....	Sherbrooke		
DUPIUIS, VINCENT.....	Longueuil		
DESSUREAULT, JEAN MARIE.....	Quebec		
BOUFFARD, PAUL HENRI.....	Quebec		
GODROUT, JOSEPH ADELARD.....	Frelighsburg		
JODOIN, MARIANA BEATCHAMP.....	Montreal		
TREMPLAY, LEONARD D. S.....	St. Malachi		
FOURNIER, SARTO.....	Montreal		

The House of Commons.—The British North America Act, 1867 provided that in respect of representation in the House of Commons the Province of Quebec should have the fixed number of sixty-five members and that there should be assigned to each of the other provinces such a number of members as would bear the same proportion to the number of its population as the number sixty-five bears to the number of the population of Quebec. This Act also provided that on the completion of a census in 1871 and of each subsequent decennial census the representation of the several provinces should be readjusted from time to time provided the proportionate representation of the provinces as prescribed by the Act was not thereby disturbed.

In the session of 1946 the House of Commons adopted a resolution stating that the effect of the provisions of the British North America Act relating to representation had not been satisfactory in that proportionate representation of the provinces according to population had not been maintained and that a more equitable apportionment of members to the various provinces could be effected if readjustments were made on the basis of the population of all the provinces taken as a whole. The Act was amended accordingly in 1946 to provide a new rule to regulate representation in the House of Commons. Generally speaking, representation was fixed as follows:—

The membership assigned to each province shall be computed by dividing the total population of the provinces by two hundred and fifty-four and by dividing the population of each province by the quotient so obtained.

This rule, employed in the redistribution of representation made in 1947, was effective in the general election of 1949.

After the completion of the 1951 Census it was apparent that as a result of a wartime shift of population a substantial reduction in the representation of the Province of Saskatchewan would ensue under the rules then regulating representation. Accordingly in an effort to eliminate sharp reductions in provincial representation from one census to another the British North America Act was again amended to provide representation on the following basis:—

“Sect. 51.—(1) Subject as hereinafter provided, the number of members of the House of Commons shall be two hundred and sixty-three and the representation of the provinces therein shall forthwith upon the coming into force of this section and thereafter on the completion of each decennial census be readjusted by such authority, in such manner, and from such time as the Parliament of Canada from time to time provides, subject and according to the following rules:—

“1. There shall be assigned to each of the provinces a number of members computed by dividing the total population of the provinces by two hundred and sixty-one and by dividing the population of each province by the quotient so obtained, disregarding, except as hereinafter in this section provided, the remainder, if any, after the said process of division.

“2. If the total number of members assigned to all the provinces pursuant to rule one is less than two hundred and sixty-one, additional members shall be assigned to the provinces (one to a province) having remainders in the computation under rule one commencing with the province having the largest remainder and continuing with the other provinces in the order of the magnitude of their respective remainders until the total number of members assigned is two hundred and sixty-one.

“3. Notwithstanding anything in this section, if upon completion of a computation under rules one and two, the number of members to be assigned to a province is less than the number of senators representing the said province, rules one and two shall cease to apply in respect of the said province, and there shall be assigned to the said province a number of members equal to the said number of senators.

“4. In the event that rules one and two cease to apply in respect of a province then, for the purpose of computing the number of members to be assigned to the provinces in respect of which rules one and two continue to apply, the total population of the provinces shall be reduced by the number of the population of the province in respect of which rules one and two have ceased to apply and the number two hundred and sixty-one shall be reduced by the number of members assigned to such province pursuant to rule three.

"5. On any such readjustment the number of members for any province shall not be reduced by more than fifteen per cent below the representation to which such province was entitled under rules one to four of this subsection at the last preceding readjustment of the representation of that province, and there shall be no reduction in the representation of any province as a result of which that province would have a smaller number of members than any other province that according to the results of the then last decennial census did not have a larger population; but for the purposes of any subsequent readjustment of representation under this section any increase in the number of members of the House of Commons resulting from the application of this rule shall not be included in the divisor mentioned in rules one to four of this subsection.

"6. Such readjustment shall not take effect until the termination of the then existing Parliament.

"(2) The Yukon Territory as constituted by chapter forty-one of the Statutes of Canada, 1901, shall be entitled to one member, and such other part of Canada not comprised within a province as may from time to time be defined by the Parliament of Canada shall be entitled to one member." (R.S.C. 1952, c. 304.)

The principal effect of these new rules is that the representation of any province shall not be reduced by more than 15 p.c. at any one readjustment subject however to the qualification that the rule shall not work out in such manner that the representation of a province with a smaller population shall be greater than any province with a larger population.

Subsequently Parliament enacted a measure, "An Act to readjust the Representation in the House of Commons, 1952", effective in the general election of 1953, which provided that representation in the House of Commons shall be on the following basis:—

"Sect. 2.—Eighty-five members of the House of Commons shall be elected for the Province of Ontario, seventy-five for the Province of Quebec, twelve for the Province of Nova Scotia, ten for the Province of New Brunswick, fourteen for the Province of Manitoba, twenty-two for the Province of British Columbia, four for the Province of Prince Edward Island, seventeen for the Province of Saskatchewan, seventeen for the Province of Alberta, seven for the Province of Newfoundland, one for the Yukon Territory and one for Mackenzie district of the Northwest Territories, thus making a total of two hundred and sixty-five members." (R.S.C. 1952, c. 344.)

The number of representatives of each province elected at each of the 22 general elections since Confederation is given in Table 9.

9.—Representation in the House of Commons as at Federal General Elections 1867-1953

Province or Territory	1867	1872	1874 1878	1882	1887 1891	1896 1900	1904	1908 1911	1917 1921	1925 1926 1930	1935 1940 1945	1949	1953
Ontario.....	82	88	88	92	92	92	86	86	82	82	82	83	85
Quebec.....	65	65	65	65	65	65	65	65	65	65	65	73	75
Nova Scotia.....	19	21	21	21	21	20	18	18	16	14	12	13	12
New Brunswick.....	15	16	16	16	16	14	13	13	11	11	10	10	10
Manitoba.....	...	4	4	5	5	7	10	10	15	17	17	16	14
British Columbia.....	...	6	6	6	6	6	7	7	13	14	16	18	22
Prince Edward Island....	...	...	6	6	6	5	4	4	4	4	4	4	4
Saskatchewan.....	...	...	...	...	4	4	10	10	16	21	21	20	17
Alberta.....	...	...	...	...				7	12	16	17	17	17
Yukon.....	}	...	...	...	...	...	1	1	1	1	1	1	1
Mackenzie River.....							...	...	...	...	...		1
Newfoundland.....	...	...	...	...	...	...	...	...	...	...	...	7	7
Totals.....	181	200	206	211	215	213	214	221	235	245	245	262	265

10.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-Second General Election, Aug. 10, 1953 and Revised to May 31, 1955.

Speaker..... The Hon. L. RENÉ BEAUDOIN
 Clerk of the House of Commons..... LEON J. RAYMOND
 Leader of the Opposition..... The Hon. GEORGE A. DREW

NOTE.—The vote is summarized by provinces in Table 12, p. 81. The leaders of the political parties are indicated by asterisks (*). For Parliamentary Assistants see p. 61. This information, except the population of constituencies, has been supplied by the Chief Electoral Officer, Ottawa. Party affiliations are unofficial. Lib.=Liberal; P.C.=Progressive Conservative; C.C.F.=Co-operative Commonwealth Federation; S.C.=Social Credit; L.-Lab.=Liberal-Labour; Ind.=Independent.

Province and Electoral District	Population, Census 1951	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
Newfoundland— (7 members)							
Bonavista-Twillingate..	45,319	24,274	12,738	10,072	Hon. J. W. PICKERSGILL	Ottawa, Ont.....	Lib.
Burin-Burgeo.....	43,043	21,412	12,593	11,017	C. W. CARTER.....	St. John's.....	Lib.
Grand Falls-White Bay-Labrador.	59,128	33,879	18,889	13,653	T. G. W. ASHBOURNE...	Twillingate.....	Lib.
Humber-St. George's..	52,142	27,357	16,297	12,526	H. BATTEN.....	Corner Brook.....	Lib.
St. John's East.....	55,116	29,961	19,757	8,310	A. MACPHERSON FRASER	St. John's.....	Lib.
St. John's West.....	56,338	30,784	19,177	9,965	J. A. POWER.....	St. John's.....	Lib.
Trinity-Conception....	50,330	27,048	12,317	8,814	L. T. STICK.....	Bay Roberts.....	Lib.
Prince Edward Island— (4 members)							
Kings.....	17,943	10,514	9,175	4,750	T. J. KICKHAM.....	Souris.....	Lib.
Prince.....	37,735	19,670	16,879	8,782	J. W. MACNAUGHT.....	Summersville.....	Lib.
Queens.....	42,751	25,285	40,508	10,351	N. A. MATHESON.....	Charlottetown....	Lib.
				10,086	J. A. MACLEAN.....	Beaton's Mills....	P.C.
Nova Scotia— (12 members)							
Antigonish.....	26,216	15,164	10,330	6,884	J. R. KIRK.....	Antigonish.....	Lib.
Guysborough.....	42,337	23,593	15,861	9,535	W. M. BUCHANAN.....	North Sydney....	Lib.
Cape Breton North and Victoria.	82,859	45,632	30,798	14,971	C. GILIS.....	Glace Bay.....	C.C.F.
Cape Breton South....	54,893	32,815	26,033	12,660	G. T. PURDY.....	Truro.....	Lib.
Colchester-Hants.....	39,655	23,839	17,223	8,860	A. R. LUSBY.....	Amherst.....	Lib.
Cumberland.....	66,510	38,432	31,980	16,422	G. C. NOWLAN.....	Wolfville.....	P.C.
Digby-Annapolis-Kings	162,217	98,208	124,773	34,587	J. H. DICKEY.....	Halifax.....	Lib.
Halifax.....	32,500	20,149	14,438	34,222	S. R. BALCOM.....	Halifax.....	Lib.
Inverness-Richmond....	44,002	27,185	21,092	9,033	A. J. MACEachen.....	Inverness.....	Lib.
Pictou.....	45,800	29,397	23,262	10,626	H. B. McCulloch.....	New Glasgow.....	Lib.
Queens-Lunenburg....	45,800	29,397	23,262	13,053	Hon. R. H. WINTERS.....	Ottawa, Ont.....	Lib.
Shelburne-Yarmouth-Claire.	45,595	26,422	19,065	11,556	T. A. M. KIRK.....	Yarmouth.....	Lib.
New Brunswick— (10 members)							
Charlotte.....	25,136	15,177	11,869	6,155	A. W. STUART.....	St. Andrews.....	Lib.
Gloucester.....	57,489	27,699	23,336	13,330	H. RORICHAUD.....	Caraquet.....	Lib.
Kent.....	26,767	13,451	10,758	7,039	H. J. MICHAUD.....	Buctouche.....	Lib.
Northumberland.....	42,994	22,182	16,789	10,666	G. R. McWILLIAM.....	Newcastle.....	Lib.
Restigouche.....	70,541	34,141	26,815	13,266	J. G. BOUCHER.....	Edmundston.....	Lib.
Madawaska.....	35,673	21,928	17,897	9,725	A. J. BROOKS.....	Sussex.....	P.C.
Royal.....	84,407	53,055	38,579	18,881	T. M. BELL.....	Saint John.....	P.C.
Saint John-Albert....	40,810	22,661	17,295	8,445	G. W. MONTGOMERY.....	Woodstock.....	P.C.
Victoria-Carleton....	40,810	46,768	37,406	20,160	H. J. MURPHY.....	Moncton.....	Lib.
Westmorland.....	51,868	30,595	24,646	12,888	Hon. M. F. GREGG.....	Ottawa, Ont.....	Lib.
York-Sunbury.....							
Quebec— (75 members)							
Argenteuil - Deux - Montagnes.....	46,920	27,933	19,132	13,283	P. VALOIS.....	Lachute.....	Lib.
Beauce.....	54,662	27,519	22,955	13,016	R. POULIN.....	St. Martin de Beauce.....	Ind.

¹ Died Apr. 18, 1955.

10.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-Second General Election, Aug. 10, 1953 and Revised to May 31, 1955—continued.

Province and Electoral District	Population and Census 1951	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
Quebec—continued							
Beauharnois-Salaberry	46,311	27,672	19,035	14,269	R. CAUCHON.....	Valleyfield.....	Lib.
Bellechasse.....	31,076	16,287	12,077	7,124	L.-P. PICARD.....	Quebec.....	Lib.
Berthier - Maskinongé - Delanau dière.....	44,292	24,436	19,062	10,709	J. LANGLOIS.....	St. Justin.....	Lib.
Bonaventure.....	41,121	20,463	15,843	9,177	B. ARSENAULT.....	Bonaventure.....	Lib.
Brome-Missisquoi.....	38,082	22,137	14,920	9,362	J.-L. DESJARDIS.....	Sutton.....	Lib.
Chambly-Rouville.....	34,622	21,068	15,013	9,824	Hon. R. PINARD.....	Montreal.....	Lib.
Champlain.....	51,190	28,577	22,966	14,420	I. ROCHEFORT.....	Cap de la Madeleine.....	Lib.
Chapleau.....	53,951	30,284	21,279	10,495	D. GOURD.....	Amos.....	Lib.
Charlevoix.....	42,851	22,338	18,179	10,742	A. MALTAIS.....	Sillery.....	Lib.
Châteauguay-Huntingdon-Laprairie.....	44,343	24,468	18,295	11,104	J. BOUCHER.....	Laprairie.....	Lib.
Chicoutimi.....	58,043	29,823	24,635	16,046	P.-E. GANON.....	Bagotville.....	Ind.
Compton-Frontenac.....	42,428	21,648	17,255	10,365	J.-A. BLANCHETTE.....	Charlottesville.....	Lib.
Drummond.....	36,807	18,625	15,695	7,762	R. PERRON.....	Sillery.....	P.C.
Drummond-Arthabaska.....	77,479	40,610	29,430	15,870	A. CLOUTIER.....	Drummondville.....	Lib.
Gaspé.....	56,050	30,296	23,359	12,058	L. LANGLOIS.....	St. Anne des Monts.....	Lib.
Gatineau.....	42,467	23,500	16,538	10,759	J.-C. NADON ¹	Maniwaki.....	Lib.
Hull.....	64,264	37,626	29,491	21,785	A. CARON.....	Hull.....	Lib.
Iles-de-la-Madeleine.....	9,999	4,903	4,300	2,337	C.-A. CANNON.....	Quebec.....	Lib.
Joliette-L'Assomption-Montcalm.....	76,957	42,749	22,908	13,149	M. BRETON.....	Joliette.....	Lib.
Kamouraska.....	34,521	18,292	11,951	6,065	A. MASSÉ.....	Quebec.....	Lib.
Labelle.....	42,701	22,298	18,679	9,569	G. ROY.....	Mont Laurier.....	Lib.
Lac-Saint-Jean.....	36,022	17,785	15,549	8,697	A. GAUTHIER.....	St. Joseph d'Alma.....	Lib.
Lapointe.....	57,861	28,019	22,314	11,854	F. GIRARD.....	Jonquière.....	Ind.
Lévis.....	41,279	24,095	19,471	13,897	M. BOURGET.....	Lauzon.....	Lib.
Longueuil.....	60,437	38,968	25,078	16,688	A. VINCENT.....	Montreal.....	Lib.
Lotbinière.....	36,419	18,590	16,088	9,047	Hon. H. LAPOINTE.....	Ottawa, Ont.....	Lib.
Matapédia-Matane.....	60,663	29,546	23,673	12,689	L. THIRIAULT.....	Matane.....	Lib.
Mégantic.....	56,873	29,239	22,588	13,951	J. LAPONTAINE.....	Thetford Mines.....	Lib.
Montmagny-L'Islet.....	37,972	20,151	15,137	10,121	Hon. J. LESAGE.....	Ottawa, Ont.....	Lib.
Nicolet-Yamaska.....	44,248	24,367	19,385	9,483	M. BOISVERT.....	Quebec.....	Lib.
Pontiac-Témiscamingue.....	41,899	21,281	15,581	9,041	H. PROUDFOOT.....	Fort Coumouge.....	Lib.
Portneuf.....	44,351	24,959	18,332	12,701	P. GAUTHIER.....	Deschambault.....	Lib.
Quebec East.....	79,177	47,504	33,296	25,945	Rt. Hon. L. S. St. LAURENT ¹	Ottawa, Ont.....	Lib.
Quebec West.....	54,726	31,222	23,259	8,464	J. W. DUPRESNE.....	Quebec.....	P.C.
Quebec South.....	52,834	35,959	25,588	18,950	Hon. C. G. POWER.....	Quebec.....	Lib.
Quebec-Montmorency.....	72,659	39,793	30,625	18,029	W. LACROIX.....	Quebec.....	Lib.
Richelieu-Verchères.....	44,386	28,275	19,156	15,406	L. CARDIN.....	Sorel.....	Lib.
Richmond-Wolfe.....	52,830	28,114	20,564	13,006	E.-O. GINGRAS.....	Marbleton.....	Lib.
Rimouski.....	61,776	31,647	24,087	8,554	G. LÉGARÉ.....	Rimouski.....	Lib.
Roberval.....	45,984	21,142	17,385	8,646	G. VILLENEUVE.....	Missassin.....	Lib.
St. Hyacinthe-Bagot.....	55,430	31,649	Acclamation		J. FONTAINE.....	St. Hyacinthe.....	Lib.
St. Jean - Iberville - Napierville.....	49,459	27,829	18,508	16,088	Hon. A. CÔRÉ.....	Ottawa, Ont.....	Lib.
St. Maurice-Lafleche.....	68,606	38,571	29,221	18,662	J.-A. RICHARD.....	Shawinigan Falls.....	Lib.
Saguenay.....	42,057	23,938	15,679	7,815	L. BRISSON.....	Quebec.....	Lib.
Shefford.....	54,618	30,048	22,858	15,409	M. BOIVIN.....	Granby.....	Lib.
Sherbrooke.....	56,711	34,613	24,211	15,827	M. GINGUES.....	Sherbrooke.....	Lib.
Stanstead.....	40,103	22,363	16,927	10,034	L.-E. ROBERGE.....	Rock Island.....	Lib.
Témiscouata.....	56,383	27,194	18,708	10,675	J.-P. POULIOT.....	Rivière-du-Loup.....	Lib.
Terrebonne.....	68,087	40,035	Acclamation		L. BERTRAND.....	St. Thérèse.....	Lib.
Three Rivers.....	57,104	34,080	29,714	15,556	L. BALCER.....	Three Rivers.....	P.C.
Vaudreuil-Soulanges.....	26,611	16,790	10,839	8,463	L.-R. BEAUDOIN.....	Hudson.....	Lib.
Villeuve.....	69,004	34,910	23,289	14,851	A. DUMAS.....	Malartic.....	Lib.
Island of Montreal and Ile Jesus—							
Cartier.....	50,577	26,270	16,553	12,493	L. D. CRESTOHL.....	Montreal.....	Lib.
Dollard.....	55,056	37,750	23,608	14,964	G. ROULEAU.....	Montreal.....	Lib.
Hochelega.....	69,209	43,080	26,002	19,467	R. EUDES.....	Montreal.....	Lib.
Jacques Cartier - Lasalle.....	72,609	50,195	33,575	19,678	E. LEDUC.....	Lachine.....	Lib.

¹ Died Dec. 16, 1953; see Table 11 for by-election.

10.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-Second General Election, Aug. 10, 1953 and Revised to May 31, 1955—continued.

Province and Electoral District	Population, Census 1951	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
Quebec—concluded							
Lafontaine.....	53,720	35,394	20,695	15,285	J.-G. RATELLE.....	Montreal.....	Lib.
Laurier.....	50,244	31,993	18,295	12,648	J.-P. LEFRANÇOIS.....	Montreal.....	Lib.
Laval.....	69,044	44,336	27,691	19,337	L. DEMERS.....	St. Laurent.....	Lib.
Maisonneuve-Rosemont.....	74,146	48,424	29,658	12,266	J. P. DESCHATELETS.....	Montreal.....	Lib.
Mercier.....	77,934	47,153	28,637	17,479	M. MONETTE.....	Pointe-aux-Trembles.....	Lib.
Mount Royal.....	77,394	52,067	28,166	17,183	A. A. MACNAUGHTON.....	Montreal.....	Lib.
Notre-Dame-de-Grâce.....	77,886	54,200	33,767	16,690	W. M. HAMILTON.....	Montreal.....	P.C.
Outremont-St. Jean.....	56,397	33,389	17,004	11,536	R. BOURQUE.....	Outremont.....	Lib.
Papineau.....	69,565	46,149	27,288	10,387	A. MEUNIER.....	Montreal.....	Lib.
St. Ann.....	45,119	26,451	18,719	15,519	T. P. HEALY.....	Montreal.....	Lib.
St. Antoine-Westmount.....	63,883	41,960	25,644	14,441	Hon. D. C. ABBOTT ¹	Ottawa, Ont.....	Lib.
St. Denis.....	67,993	42,835	24,626	17,359	A. DENIS.....	Montreal.....	Lib.
St. Henri.....	63,612	37,998	24,036	15,046	J.-A. BONNIER.....	Montreal.....	Lib.
St. Jacques.....	72,417	47,540	23,892	15,443	R. BEAUDRY.....	Montreal.....	Lib.
St. Lawrence-St. George.....	47,305	32,032	14,854	9,082	Hon. B. CLAXTON ²	Ottawa, Ont.....	Lib.
St. Marie.....	66,517	39,048	22,531	16,288	H. DUPUIS.....	Montreal.....	Lib.
Verdun.....	77,448	48,147	30,051	20,281	P.-E. CÔTÉ ³	Verdun.....	Lib.
Ontario— (85 members)							
Algoma East.....	33,818	16,861	11,473	7,494	Hon. L. B. PEARSON.....	Ottawa.....	Lib.
Algoma West.....	51,988	31,094	20,677	10,461	G. E. NIXON.....	Sault Ste. Marie.....	Lib.
Brantford.....	50,702	30,875	21,700	9,576	J. E. BROWN.....	Brantford.....	Lib.
Brant-Haldimand.....	46,293	27,540	20,934	10,059	J. A. CHARLTON.....	Paris.....	P.C.
Bruce.....	28,205	17,735	14,030	7,132	A. E. ROBINSON.....	Kincardine.....	P.C.
Carleton.....	71,974	48,372	37,038	20,137	Hon. G. A. DREW*.....	Ottawa.....	P.C.
Cochrane.....	39,255	20,290	14,474	6,667	J. A. A. HAREL.....	Kapuskasing.....	Lib.
Dufferin-Simcoe.....	41,350	22,905	16,497	9,248	Hon. W. E. ROWE.....	Newton Robinson.....	P.C.
Durham.....	30,115	19,367	14,594	6,684	J. M. JAMES.....	Bowmanville.....	Lib.
Elgin.....	55,518	32,518	23,433	12,482	C. D. COYLE ¹	Straffordville.....	P.C.
Essex East.....	80,086	47,992	30,332	19,946	Hon. P. MARTIN.....	Ottawa.....	Lib.
Essex South.....	45,585	26,324	18,207	10,620	S. M. CLARK.....	Harrow.....	Lib.
Essex West.....	90,240	54,380	29,422	15,199	D. BROWN.....	Windsor.....	Lib.
Fort William.....	45,675	27,311	20,016	10,402	D. MCIVOR.....	Fort William.....	Lib.
Glenarry-Prescott.....	43,278	24,232	19,551	7,800	R. BRUNEAU.....	Hawkesbury.....	Lib.
Grenville-Dundas.....	32,863	21,348	13,911	8,875	A. C. CASSELMAN.....	Prescott.....	P.C.
Grey-Bruce.....	35,430	22,219	15,614	9,236	Hon. W. E. HARRIS.....	Ottawa.....	Lib.
Grey North.....	36,636	23,343	17,570	8,368	C. E. BENNETT.....	Meaford.....	Lib.
Halton.....	44,003	28,882	20,680	9,914	SYRIL BENNETT.....	Georgetown.....	P.C.
Hamilton East.....	68,489	43,307	26,181	11,622	T. ROSS.....	Hamilton.....	Lib.
Hamilton South.....	73,049	47,797	30,568	12,296	R. E. REINKE.....	Hamilton.....	Lib.
Hamilton West.....	72,555	45,262	27,879	13,016	ELEEN L. FAIRCLOUGH.....	Hamilton.....	P.C.
Hastings-Frontenac.....	43,771	26,437	18,850	11,084	G. S. WHITE.....	Madoc.....	P.C.
Hastings South.....	55,640	33,882	26,262	13,170	F. S. FOLLWELL.....	Belleville.....	Lib.
Huron.....	43,497	26,133	21,331	11,045	E. CARDIFF.....	Brussels.....	P.C.
Kenora-Rainy River.....	55,008	29,309	20,230	11,380	W. M. BENEDICKSON.....	Kenora.....	L.-Lab.
Kent.....	63,174	37,329	26,356	15,532	B. HUFFMAN.....	Blenheim.....	Lib.
Kingston.....	55,644	34,349	27,474	14,663	W. J. HENDERSON.....	Kingston.....	Lib.
Lambton-Kent.....	38,640	23,098	16,802	9,432	H. A. MACKENZIE.....	Watford.....	Lib.
Lambton West.....	53,993	33,522	22,283	11,666	J. W. MURPHY.....	Cambridge.....	P.C.
Lanark.....	35,601	22,273	15,926	10,029	W. G. BLAIR.....	Perth.....	P.C.
Leeds.....	38,831	24,830	20,046	10,097	H. STANTON.....	Sealeys Bay.....	P.C.
Lincoln.....	89,366	57,301	37,338	16,113	H. P. CAYERS.....	St. Catharines.....	Lib.
London.....	72,396	48,202	31,978	15,254	R. W. MITCHELL.....	London.....	P.C.
Middlesex East.....	57,341	36,291	24,364	12,027	H. O. WHITE.....	Glanworth.....	P.C.
Middlesex West.....	52,402	19,815	14,933	8,645	R. MCCUBBIN.....	Strathroy.....	Lib.
Niagara Falls.....	57,808	38,927	22,729	13,400	W. L. HOUCK.....	Niagara Falls.....	Lib.
Nickel Belt.....	39,148	22,796	15,244	8,821	J. L. GAUTHIER.....	Sudbury.....	Lib.
Nipissing.....	48,120	27,298	19,834	12,415	J. R. GARLAND.....	North Bay.....	Lib.
Norfolk.....	42,708	23,666	16,223	8,475	R. E. ANDERSON.....	Waterford.....	Lib.

¹ Accepted an office of emolument under the Crown effective July 1, 1954; see Table 11 for by-election.
² Resigned July 31, 1954; see Table 11 for by-election.
³ Accepted an office of emolument under the Crown effective Jan. 1, 1954; see Table 11 for by-election.
⁴ Died Jan. 19, 1954; see Table 11 for by-election.

10.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-Second General Election, Aug. 10, 1953 and Revised to May 31, 1955—continued.

Province and Electoral District	Population, Census 1951	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
Ontario—concluded							
Northumberland.....	33,482	21,607	17,792	9,595	F. G. ROBERTSON.....	Cobourg.....	Lib.
Ontario.....	78,231	50,149	30,033	12,482	M. STARR.....	Oshawa.....	P.C.
Ottawa East.....	56,121	35,781	26,919	19,863	J. T. RICHARD.....	Ottawa.....	Lib.
Ottawa West.....	74,867	49,246	36,538	20,933	G. McILRAITH.....	Ottawa.....	Lib.
Oxford.....	58,818	35,547	25,611	12,693	W. NESBITT.....	Woodstock.....	P.C.
Parry Sound-Muskoka.....	51,686	31,680	22,207	10,940	W. K. McDONALD.....	Sundridge.....	Lib.
Peel.....	55,673	38,786	25,515	13,487	G. GRAYDON ¹	Brampton.....	P.C.
Perth.....	51,022	32,707	24,100	12,959	J. W. MONTEITH.....	Stratford.....	P.C.
Peterborough.....	53,123	33,447	25,358	13,206	G. K. FRASER.....	Lakefield.....	P.C.
Port Arthur.....	66,994	35,410	24,753	12,272	Rt. Hon. C. D. HOWE.....	Ottawa.....	Lib.
Prince Edward-Lennox.....	31,111	19,131	12,634	6,726	G. J. TUSTIN.....	Napanee.....	P.C.
Renfrew North.....	37,188	20,907	16,851	9,360	J. M. FORGIE.....	Pembroke.....	Lib.
Renfrew South.....	31,624	19,093	15,562	8,627	Hon. J. J. McCANN.....	Ottawa.....	Lib.
Russell.....	56,951	33,169	24,578	15,969	J.-O. GOUR.....	Casselman.....	Lib.
Simcoe East.....	46,769	27,459	20,124	9,099	W. A. ROBINSON.....	Midland.....	Lib.
Simcoe North.....	33,762	22,690	16,275	8,316	J. H. FERGUSON.....	Collingwood.....	P.C.
Stormont.....	48,458	27,587	20,999	13,503	Hon. L. CHEVRIER ²	Ottawa.....	Lib.
Sudbury.....	58,276	31,914	21,526	12,193	D. R. MITCHELL.....	Sudbury.....	Lib.
Timiskaming.....	49,658	25,654	18,889	7,497	ANN SHIPLEY.....	Kirkland Lake.....	Lib.
Timmins.....	45,924	23,103	14,077	5,541	K. A. EYRE.....	Timmins.....	Lib.
Victoria.....	43,654	28,352	21,830	12,634	C. W. HODGSON.....	Haliburton.....	P.C.
Waterloo North.....	78,482	50,457	32,519	16,139	N. C. SCHNEIDER.....	Kitchener.....	Lib.
Waterloo South.....	47,641	30,374	21,875	9,058	A. W. A. WHITE.....	Galt.....	Lib.
Welland.....	65,425	40,393	28,255	15,411	W. H. McMILLAN.....	Thorold.....	Lib.
Wellington-Huron.....	30,462	18,724	14,420	7,198	W. M. HOWE.....	Arthur.....	P.C.
Wellington South.....	43,350	27,196	20,576	9,275	H. A. HOSKING.....	Guelph.....	Lib.
Westworth.....	51,990	35,010	22,292	10,476	F. E. LENNARD.....	Dundas.....	P.C.
York Centre.....	66,505	53,779	31,938	13,903	A. H. HOLLINGWORTH.....	Toronto.....	Lib.
York East.....	65,169	45,061	26,319	11,062	R. H. MCGREGOR.....	Toronto.....	P.C.
York-Humber.....	63,279	44,859	27,545	11,157	MARGARET AITKEN.....	Toronto.....	P.C.
York North.....	51,059	33,501	22,661	10,988	J. SMITH.....	Richmond Hill.....	Lib.
York-Scarborough.....	72,117	55,811	34,356	14,889	F. ENFIELD.....	Toronto.....	Lib.
York South.....	90,454	62,202	34,381	12,216	J. W. NOSEWORTHY.....	Toronto.....	C.C.F.
York West.....	64,891	48,605	29,845	12,228	R. ADAMSON ³	Port Credit.....	P.C.
City of Toronto—							
(14 members)							
Broadview.....	59,676	39,136	21,302	10,403	G. H. HEES.....	Toronto.....	P.C.
Danforth.....	71,895	51,736	31,163	12,595	R. H. SMALL.....	Toronto.....	P.C.
Davenport.....	60,228	38,035	22,002	8,919	P. T. HELLYER.....	Toronto.....	Lib.
Eglinton.....	72,208	51,266	31,173	17,354	D. M. FLEMING.....	Toronto.....	P.C.
Greenwood.....	57,876	38,351	22,353	9,702	J. M. MACDONNELL.....	Toronto.....	P.C.
High Park.....	58,009	38,281	23,303	10,032	A. J. P. CAMERON.....	Toronto.....	Lib.
Parkdale.....	57,079	36,847	22,027	10,391	J. HUNTER.....	Toronto.....	Lib.
Rosedale.....	56,341	36,181	21,511	8,702	C. HENRY.....	Toronto.....	Lib.
St. Paul's.....	61,486	42,516	23,901	9,738	R. MICHENER.....	Toronto.....	P.C.
Spadina.....	85,479	52,220	28,004	15,496	D. A. CROLL.....	Toronto.....	Lib.
Trinity.....	62,871	34,778	20,083	8,056	L. CONACHER ⁴	Toronto.....	Lib.
Manitoba—							
(14 members)							
Brandon-Souris.....	56,589	34,989	24,145	13,915	W. G. DINSDALE.....	Brandon.....	P.C.
Churchill.....	43,323	21,666	12,464	4,984	G. D. WEAVER.....	Flin Flon.....	Lib.
Dauphin.....	42,141	24,062	16,172	6,839	F. S. ZAPLITNY.....	Dauphin.....	C.C.F.
Lisgar.....	46,921	25,981	14,623	6,581	W. A. POMMER.....	Manitoba.....	Lib.
Marquette.....	48,626	28,668	18,226	9,900	Hon. S. S. GARSON.....	Ottawa, Ont.....	Lib.
Portage-Neepawa.....	50,469	28,836	17,946	8,958	W. G. WEIR.....	Carman.....	Lib.
Provencher.....	40,315	20,525	10,163	6,632	R. N. JUTRAS.....	Letellier.....	Lib.
St. Boniface.....	53,067	31,179	18,822	8,051	F. VIAU.....	St. Boniface.....	Lib.
Selkirk.....	47,037	25,012	14,412	6,265	R. J. WOOD ⁵	Teulon.....	Lib.
Springfield.....	40,275	21,814	12,521	6,240	A. B. BESELEK.....	Beausejour.....	Lib.
Winnipeg North.....	81,311	51,637	31,090	15,005	A. STEWART.....	Winnipeg.....	C.C.F.
Winnipeg North Centre.....	75,699	45,303	24,078	12,713	S. H. KNOWLES.....	Winnipeg.....	C.C.F.
Winnipeg South.....	75,820	52,433	32,080	12,597	O. C. TRAINOR.....	Winnipeg.....	P.C.
Winnipeg South Centre.....	75,048	53,269	29,680	12,489	G. H. CHURCHILL.....	Winnipeg.....	P.C.

¹ Died Sept. 19, 1953; see Table 11 for by-election.

effective July 1, 1954; see Table 11 for by-election.

⁴ Died May 26, 1954; see Table 11 for by-election.

² Accepted an office of emolument under the Crown

³ Died Apr. 8, 1954; see Table 11 for by-election.

⁵ Died Aug. 8, 1954; see Table 11 for by-election.

10.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-Second General Election, Aug. 10, 1953 and Revised to May 31, 1955—continued.

Province and Electoral District	Population, Census 1951	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
No.	No.	No.	No.				
Saskatchewan— (17 members)							
Assiniboia.....	47,894	26,506	20,498	10,596	H. R. ARGUE.....	Kayville.....	C.C.F.
Humboldt-Melfort.....	52,286	27,811	21,036	9,512	H. A. BRYSON.....	Tisdale.....	C.C.F.
Kindersley.....	44,720	26,475	20,621	8,672	M. JOHNSON.....	Beadle.....	C.C.F.
Mackenzie.....	50,741	25,352	18,392	8,021	A. M. NICHOLSON.....	Sturgis.....	C.C.F.
Meadow Lake.....	35,424	17,633	11,726	5,080	J. H. HARRISON.....	Medstead.....	Lib.
Melville.....	43,173	24,090	20,167	10,024	Rt. Hon. J. G. GARDINER.....	Ottawa, Ont.....	Lib.
Moose Jaw-Lake Centre.....	53,607	34,279	23,908	12,436	W. R. THATCHER.....	Moose Jaw.....	C.C.F.
Moose Mountain.....	40,939	22,901	18,415	8,697	E. G. McCULLOUGH.....	Manor.....	C.C.F.
Prince Albert.....	53,564	28,793	22,890	10,038	J. G. DIEFENBAKER.....	Prince Albert.....	P.C.
Qu'Appelle.....	40,456	22,757	18,267	6,988	H. P. MANG.....	Edenwold.....	Lib.
Regina City.....	66,078	44,153	32,069	14,558	A. C. ELLIS.....	Regina.....	C.C.F.
Rosetown-Biggar.....	44,135	26,682	20,624	11,404	M. J. COLDWELL*.....	Ottawa, Ont.....	C.C.F.
Rosthern.....	49,455	25,933	19,074	8,616	W. A. TUCKER.....	Rosthern.....	Lib.
Saskatoon.....	56,196	38,838	25,210	12,056	R. R. KNIGHT.....	Saskatoon.....	C.C.F.
Swift Current - Maple Creek.....	50,539	31,394	23,470	10,088	I. STUDER.....	Lac Pelletier.....	Lib.
The Battlefords.....	50,913	27,556	18,884	8,922	M. CAMPBELL.....	Neilburg.....	C.C.F.
Yorkton.....	51,608	29,379	21,228	11,027	C. H. CASTLEDEN.....	Yorkton.....	C.C.F.
Alberta— (17 members)							
Acadia.....	43,832	26,157	17,417	7,956	V. QUELCH.....	Banff.....	S.C.
Athabasca.....	51,559	26,563	15,543	7,293	J. M. DECHENE.....	Bonnyville.....	Lib.
Battle River-Camrose.....	56,913	30,641	18,344	9,238	R. FAIR ¹	Vermilion.....	S.C.
Bow River.....	44,795	23,993	15,495	7,320	C. E. JOHNSTON.....	Calgary.....	S.C.
Calgary North.....	67,358	47,448	29,841	11,002	D. S. HARKNESS.....	Calgary.....	P.C.
Calgary South.....	70,590	48,790	30,198	12,491	C. O. NICKLE.....	Calgary.....	P.C.
Edmonton East.....	62,843	39,263	22,094	8,802	A. HOLOWACH.....	Edmonton.....	S.C.
Edmonton-Strathcona.....	56,093	39,202	24,044	8,901	R. F. L. HANNA.....	Edmonton.....	Lib.
Edmonton West.....	68,299	45,223	26,501	11,301	Hon. G. PRUDHAM.....	Ottawa, Ont.....	Lib.
Jasper-Edson.....	56,605	30,133	18,975	7,639	C. YULL.....	Barhead.....	S.C.
Lethbridge.....	56,613	26,492	17,355	9,737	J. H. BLACKMORE.....	Cardston.....	S.C.
Macleod.....	49,506	26,992	18,087	8,685	E. G. HANSELL.....	Vulcan.....	S.C.
Medicine Hat.....	48,566	28,356	19,490	9,305	W. D. WYLE.....	Medicine Hat.....	S.C.
Peace River.....	61,015	31,925	20,876	10,151	S. E. LOW*.....	Ottawa, Ont.....	S.C.
Red Deer.....	46,496	26,688	16,883	8,792	F. D. SHAW.....	Innisfail.....	S.C.
Vegreville.....	47,475	25,118	17,201	8,023	J. DECORRE.....	Vegreville.....	Lib.
Wetaskiwin.....	50,853	25,763	14,914	6,920	R. THOMAS.....	Wetaskiwin.....	S.C.
British Columbia— (22 members)							
Burnaby-Coquitlam.....	49,633	29,679	19,324	7,232	E. REGIER.....	New Westminster.....	C.C.F.
Burnaby-Richmond.....	51,540	31,784	20,621	7,021	T. GOODE.....	Burnaby.....	Lib.
Cariboo.....	40,244	25,860	15,225	5,562	B. R. LEBOE.....	Prince George.....	S.C.
Coast-Capilano.....	65,645	44,177	29,822	13,614	Hon. J. SINCLAIR.....	Ottawa, Ont.....	Lib.
Comox-Alberni.....	52,015	29,744	17,834	6,115	T. S. BARNETT.....	Alberni.....	C.C.F.
Esquimalt-Saanich.....	45,569	30,907	20,832	9,537	G. R. PEARKES.....	Victoria.....	P.C.
Fraser Valley.....	64,070	35,689	23,314	9,618	A. B. PATTERSON.....	Abbotsford.....	S.C.
Kamloops.....	44,318	25,175	16,451	7,578	E. D. FULTON.....	Kamloops.....	P.C.
Kootenay East.....	33,223	18,675	13,329	4,988	J. BYRNE.....	Kimberley.....	Lib.
Kootenay West.....	49,570	26,960	18,485	8,990	H. W. HERRIDGE.....	Nakusp.....	C.C.F.
Nanaimo.....	45,857	27,583	18,960	7,272	C. CAMERON.....	Victoria.....	C.C.F.
New Westminster.....	81,533	52,111	34,982	10,770	G. HAHN.....	New Westminster.....	S.C.
Okanagan Boundary.....	54,004	29,562	20,860	8,086	O. L. JONES.....	Kelowna.....	C.C.F.
Okanagan-Revelstoke.....	29,477	16,622	11,884	3,537	G. W. MCLEOD.....	Enderby.....	S.C.
Skeena.....	36,685	20,937	12,431	5,332	E. T. APPLEWHITE.....	Prince Rupert.....	Lib.
Vancouver-Burrard.....	61,416	43,874	26,196	9,035	J. L. MACDOUGALL.....	Vancouver.....	Lib.
Vancouver Centre.....	54,528	35,263	20,421	8,259	Hon. R. O. CAMPNEY.....	Ottawa, Ont.....	Lib.
Vancouver East.....	47,089	34,214	20,310	10,192	H. E. WINCH.....	Vancouver.....	C.C.F.
Vancouver-Kingsway.....	55,048	35,453	22,170	10,162	A. MACINNIS.....	Vancouver.....	C.C.F.
Vancouver Quadra.....	64,131	43,367	29,320	12,769	H. C. GREEN.....	Vancouver.....	P.C.
Vancouver South.....	64,926	43,625	28,732	10,459	E. PHILPOTT.....	Vancouver.....	Lib.
Victoria.....	74,689	49,621	33,953	13,696	F. T. FAIREY.....	Victoria.....	Lib.

¹ Died Nov. 11, 1954.

10.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-Second General Election, Aug. 10, 1953 and Revised to May 31, 1955—concluded.

Province and Electoral District	Population, Census 1951	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
Yukon Territory— (1 member)							
Yukon.....	9,096	5,028	3,818	2,176	J. A. SIMMONS.....	Whitehorse.....	Lib.
Northwest Territories— (1 member)							
Mackenzie River.....	10,279	5,682	3,596	1,722	M. A. HARDIE.....	Yellowknife.....	Lib.

11.—By-elections from the Date of the General Election, Aug. 10, 1953 to May 31, 1955¹

Electoral District and Province	Date of By-election	Voters on List	Candidates	Votes Polled	Name of New Member	P.O. Address	Party Affiliation
		No.	No.	No.			
Elgin, Ont.....	Mar. 22, 1954	32,479	2	22,670	J. A. MCBAIN.....	St. Thomas.....	P.C.
Gatineau, Que.....	Mar. 22, 1954	23,328	4	10,756	R. LEDUC.....	Maniwaki.....	Lib.
Peel, Ont.....	Mar. 22, 1954	40,844	3	24,699	J. PALLETT.....	Port Credit.....	P.C.
Verdun, Que.....	Mar. 22, 1954	48,790	7	25,435	Y. LEDUC.....	Verdun.....	Lib.
St. Antoine- Westmount, Que....	Nov. 8, 1954	41,467	4	23,786	Hon. G. C. MARLER...	Montreal.....	Lib.
St. Lawrence - St. George, Que.....	Nov. 8, 1954	32,473	4	11,893	C. RICHARDSON.....	Montreal.....	Lib.
Selkirk, Man.....	Nov. 8, 1954	24,976	3	16,783	W. S. BRYCE.....	Selkirk.....	C.C.F.
Stormont, Ont.....	Nov. 8, 1954	28,326	2	22,767	A. P. LAVIGNE.....	Cornwall.....	Lib.
Trinity, Ont.....	Nov. 8, 1954	34,362	4	14,795	D. D. CARRICK.....	Toronto.....	Lib.
York West, Ont.....	Nov. 8, 1954	54,212	4	27,896	J. B. HAMILTON.....	Etobicoke.....	P.C.

¹ By-elections from May 31, 1955 to the date of going to press are included in Appendix I.

The Opposition.—The Opposition occupies an essential place in constitutions based on the British parliamentary system. Like many other institutions, such as that of the premiership for instance, it is founded on the unwritten customs that have been accepted and become firmly established.

The choice of the Canadian electorate not only determines who shall govern Canada but by deciding which party receives the second largest number of seats in the House of Commons it designates which of the major parties becomes the Official Opposition. The function of the Leader of the Opposition is to offer intelligent and constructive criticism of the Government of the day.

When criticism by the Opposition becomes sufficiently effective it can overthrow the existing Government and the Leader of the Opposition might then, as a result of the ensuing election or by forming a coalition without resorting to an election at the time, become Prime Minister.

Although the position of Leader of the Opposition is not recognized in the British North America Act it received statutory acknowledgment in Canada in 1927. The Senate and House of Commons Act of that year provided for an annual salary to be paid to the Leader of the Opposition in addition to his indemnity as a Member of the House.

Indemnities and Allowances.—Members of the Senate receive a sessional allowance at the rate of \$8,000 per annum. In addition they receive at the end of each calendar year an annual expense allowance of \$2,000 which is subject to income tax. Members of the House of Commons are paid a sessional allowance at the rate of \$8,000 per annum. In addition they receive \$2,000 as an expense allowance paid at the end of each calendar

year. This allowance, except that for Ministers of the Crown and for Leaders of the Opposition in the House and in the Senate, is not subject to income tax. The remuneration of the Prime Minister is \$25,000 a year and of a Cabinet Minister and the Leader of the Opposition \$15,000 a year in addition to the sessional allowance and expense allowance each receives as a Member of Parliament. A Cabinet Minister is also entitled to a motor car allowance of \$2,000. The Speakers of the Senate and of the House of Commons each receive, besides their sessional allowance and expense allowance, a salary of \$9,000 and a motor car allowance of \$1,000 and each is entitled to \$3,000 in lieu of a residence. The Deputy Speaker of the House of Commons receives a salary of \$6,000 and an allowance of \$1,500 in lieu of a residence. The Deputy Chairman of Committees receives an annual allowance of \$2,000. Parliamentary Assistants to the Ministers of the Crown receive \$8,000 sessional allowance as Members of Parliament, \$4,000 a year as Parliamentary Assistants and the \$2,000 expense allowance paid to all Members of Parliament.

The Federal Franchise.—The present federal franchise laws are contained in the Canada Elections Act (R.S.C. 1952, c. 23). The franchise is conferred upon all Canadian citizens or British subjects, men and women who have attained the age of 21 years and who have been ordinarily resident in Canada for 12 months prior to polling day at a federal election and ordinarily resident in the electoral district on the date of the issue of the writ ordering such election. Persons denied the right to vote are:—

- (1) Judges appointed by the Governor General in Council;
- (2) The returning officer for each electoral district;
- (3) Persons undergoing punishment as inmates of any penal institution for the commission of any offence;
- (4) Indians ordinarily resident on an Indian reserve who were not members of His Majesty's Forces in World Wars I or II or who did not execute a waiver of exemption under the Indian Act from taxation on and in respect of personal property;
- (5) Persons restrained of their liberty or deprived of the management of their property by reason of mental disease;
- (6) Persons disqualified under any law relating to the disqualification of electors for corrupt and illegal practices.

The Canadian Forces Voting Regulations set out in the Schedule to the Canada Elections Act prescribe voting procedure for members of the Armed Forces of Canada and also for veterans in receipt of treatment or domiciliary care in certain institutions.

12.—Voters on the Lists and Votes Polled at the Federal General Elections of 1940, 1945, 1949 and 1953

NOTE.—Corresponding statistics for the general elections of 1911, 1917, 1921 and 1925 are given in the 1926 Year Book, p. 82; those for 1926 in the 1945 edition, p. 66; those for 1930 and 1935 in the 1948-49 edition, p. 94.

Province or Territory	Voters on the Lists				Votes Polled			
	1940	1945	1949	1953	1940	1945	1949	1953
	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	...	...	182,439	194,715	...	...	105,190	111,768
Prince Edward Island.....	55,339	54,794	55,772	55,469	62,943 ¹	63,807 ¹	68,393 ¹	66,562 ¹
Nova Scotia.....	335,990	362,754	373,585	380,836	283,428 ²	312,954 ²	338,928 ²	334,855 ²
New Brunswick.....	251,986	262,261	286,723	287,657	174,734	204,273	225,877	225,390
Quebec.....	1,799,942	1,956,225	2,177,152	2,352,619	1,189,489	1,433,591	1,610,510	1,565,400
Ontario.....	2,340,344	2,457,937	2,718,118	2,894,150	1,625,439	1,831,806	2,042,294	1,938,959
Manitoba.....	425,066	433,921	451,882	465,374	320,860	327,794	324,079	276,422
Saskatchewan.....	481,931	445,601	472,884	480,532	373,376	379,539	375,471	356,479
Alberta.....	423,609	430,430	492,228	548,747	272,418	315,863	341,222	343,258
British Columbia.....	472,584	545,077	673,782	730,882	368,103	433,402	464,785	475,456
Yukon Territory ³	2,097	3,445	9,064	5,028	1,741	2,164	6,823	3,818
Northwest Territories ⁴.....	...	...	...	5,682	...	...	...	3,596
Totals.....	6,388,888	6,952,445	7,893,629	8,401,691	4,672,531	5,305,193	5,903,572	5,701,963

¹ Each voter in the double-member constituency of Queens County, P.E.I. had two votes; in 1953, 25,285 voters on the list cast 40,508 votes.

² Each voter in the double-member constituency of Halifax, N.S. had two votes; in 1953, 98,208 voters on the list cast 124,773 votes.

³ Electoral District of Yukon.

⁴ Electoral District of Mackenzie River.

Subsection 3.—The Judiciary

The Federal Judiciary

The Parliament of Canada is empowered by Sect. 101 of the British North America Act to provide from time to time for the constitution, maintenance and organization of a general Court of Appeal for Canada and for the establishment of any additional courts for the better administration of the laws of Canada. Under this provision Parliament has established the Supreme Court of Canada, the Exchequer Court of Canada and certain miscellaneous courts.

Supreme Court of Canada.—This Court, first established in 1875 and now governed by the Supreme Court Act (R.S.C. 1952, c. 259), consists of a chief justice, who is called the Chief Justice of Canada, and eight puisne judges. The chief justice and the puisne judges are appointed by the Governor in Council and they hold office during good behaviour but are removable by the Governor General on address of the Senate and the House of Commons. They cease to hold office upon attaining the age of 75 years. The Court sits at Ottawa and exercises general appellate jurisdiction throughout Canada in civil and criminal cases. The Court is also required to consider and advise upon questions referred to it by the Governor in Council and it may also advise the Senate or the House of Commons on Private Bills referred to the Court under any rules or orders of the Senate or the House of Commons.

Appeals may be brought from any final judgment of the highest court of final resort in a province in any case where the amount or value of the matter in controversy exceeds the sum of \$2,000. An appeal may be brought from any other final judgment with leave of the highest court of final resort in the province; if such court refuses to grant leave the Supreme Court of Canada may grant leave to appeal. The Supreme Court may grant leave to appeal from any judgment whether final or not. Appeals in respect of indictable offences are regulated by the Criminal Code. Appeals from federal courts are regulated by the statute establishing such courts. The judgment of the Supreme Court of Canada in all cases is final and conclusive.

13.—Chief Justice and Judges of the Supreme Court of Canada as at May 31, 1955

(In order of seniority)

Name	Date of Appointment
The Hon. Chief Justice PATRICK KERWIN.....	July 1, 1954 ¹
The Hon. Justice ROBERT TASCHEREAU.....	Feb. 9, 1940
The Hon. Justice I. C. RAND.....	Apr. 22, 1943
The Hon. Justice ROY L. KELLOCK.....	Oct. 3, 1944
The Hon. Justice JAS. W. ESTEY.....	Oct. 6, 1944
The Hon. Justice CHARLES H. LOCKE.....	June 3, 1947
The Hon. Justice JOHN R. CARTWRIGHT.....	Dec. 23, 1949
The Hon. Justice J. H. GERALD FAUTEUX.....	Dec. 23, 1949
The Hon. Justice DOUGLAS CHARLES ABBOTT.....	July 1, 1954

¹ First appointed as a Judge of the Supreme Court, July 20, 1935.

Exchequer Court.—The Exchequer Court of Canada was first established in 1875 as part of the Supreme Court of Canada but is now a separate court governed by the Exchequer Court Act (R.S.C. 1952, c. 98). The Court consists of a president and four puisne judges who are appointed by the Governor in Council. The president and the puisne judges hold office during good behaviour but may be removed by the Governor General on address of the Senate and the House of Commons. They cease to hold office upon attaining the age of 75 years. The Court sits at Ottawa and also at any other place in Canada where sittings may be fixed by the Court. The jurisdiction of the Court extends to cases where claims are made by or against the Crown in right of Canada. Proceedings against the Crown are taken by petition of right pursuant to the Petition of Right Act (R.S.C. 1952, c. 210).

An appeal lies to the Supreme Court of Canada from any final judgment of the Exchequer Court in which the amount in controversy exceeds \$500; an appeal also lies with leave of the Supreme Court in certain cases where the amount in controversy does not exceed \$500 or where the judgment is not final.

The Exchequer Court also exercises admiralty jurisdiction in Canada. This was first conferred in 1891 by the Admiralty Act (54-55 Vict., c. 29) and is now governed by the Admiralty Act (R.S.C. 1952, c. 1). Under this Statute the Exchequer Court is continued as a Court of Admiralty. The president and puisne judges of the Exchequer Court exercise admiralty jurisdiction throughout the whole of Canada. In addition Canada is divided into various admiralty districts; a district judge in admiralty is appointed for each district. Appeals to the Supreme Court of Canada from judgments of the president or the puisne judges are governed by the general appeal provisions in the Exchequer Court Act. Appeals may be taken from a final judgment of a district judge in admiralty either to the Exchequer Court or direct to the Supreme Court of Canada.

Miscellaneous Courts.—*Railway Act.*—The Railway Act, 1903 (R.S.C. 1952, c. 234) established the Board of Railway Commissioners for Canada as a court of record; by the Transport Act, 1938 (R.S.C. 1952, c. 271) the name was changed to the Board of Transport Commissioners for Canada. This Court exercises jurisdiction with respect to railway matters. The Governor in Council is given jurisdiction to vary any order of the Board and an appeal lies from the Board to the Supreme Court of Canada upon a question of jurisdiction or a question of law.

Bankruptcy Act.—By virtue of Sect. 91, para. 21 of the British North America Act, 1867 Parliament has exclusive legislative jurisdiction in relation to bankruptcy and insolvency. By the Bankruptcy Act (R.S.C. 1952, c. 14) the superior courts of the provinces are constituted bankruptcy courts; original jurisdiction is conferred upon the trial courts and appellate jurisdiction is conferred upon the appeal courts of the provinces.

Farmers' Creditors Arrangement Act.—Under the Farmers' Creditors Arrangement Act (R.S.C. 1952, c. 111) the county or district courts of the provinces are established as courts for the purposes of this Act and the appeal courts of the provinces are given appellate jurisdiction.

Income Tax Appeal Board.—By the Income Tax Act (R.S.C. 1952, c. 148) an Appeal Board is established consisting of a chairman and not fewer than two or more than four members with jurisdiction over appeals against income tax assessments. A further appeal may be taken to the Exchequer Court.

Provincial Judiciaries*

Certain provisions of the British North America Act govern to some extent the provincial judiciaries. Under Sect. 92 (14) the legislature of each province exclusively may make laws in relation to the administration of justice in the province including the constitution, maintenance and organization of provincial courts both of civil and of criminal jurisdiction. Sect. 96 provides that the Governor General in Council shall appoint the judges of the superior, district, and county courts in each province except those of the courts of probate in Nova Scotia and New Brunswick. Sect. 100 provides that the salaries, allowances and pensions of judges of the superior, district and county courts (except the courts of probate in Nova Scotia and New Brunswick) are to be fixed and provided by the Parliament of Canada and these are set out in the Judges Act (R.S.C. 1952, c. 157). Under Sect. 99 the judges of the superior courts hold office during good behaviour but are removable by the Governor General on address of the Senate and House of Commons. The tenure of office of district and county court judges is fixed by the Judges Act as being during good behaviour and their residence within the county or union of counties for which the court is established.

* More detailed information concerning provincial judiciaries is given in the 1954 Year Book, pp. 48-55.

All provinces have minor courts with limited civil and criminal jurisdiction, the judges of which are appointed by provincial authority as for example Justices of the Peace, Magistrates and Juvenile Court Judges. Except in Quebec there are County or District Courts of each province with limited jurisdiction varying from \$500 to \$2,500 in amount. Each province has a superior court with virtually unlimited jurisdiction variously known as Court of Queen's Bench, Supreme Court, Superior Court, etc., and there is a Court of Appeal in each province.

Section 2.—Provincial and Territorial Governments*

In each of the provinces, the Queen is represented by a Lieutenant-Governor appointed by the Governor General in Council. The Lieutenant-Governor acts on the advice and with the assistance of his Ministry or Executive Council which is responsible to the Legislature and resigns office when it ceases to enjoy the confidence of that body.

The Legislature of each province is unicameral, consisting of the Lieutenant-Governor and a Legislative Assembly except for the Province of Quebec where there is a Legislative Council as well as a Legislative Assembly.

The Legislative Assembly is elected by the people for a statutory term of five years but may be dissolved within that period by the Lieutenant-Governor on the advice of the Premier of the province.

The source of legislative authority of the Provincial Legislatures is the British North America Act, 1867 (30-31 Vict., c. 3 and amendments). Under Sect. 92 of the Act the Legislature of each province exclusively may make laws in relation to the following matters: amendment of the constitution of the province except as regards the Lieutenant-Governor; direct taxation within the province; borrowing of money on the credit of the province; establishment and tenure of provincial offices and appointment and payment of provincial officers; the management and sale of public lands belonging to the province and of the timber and wood thereon; the establishment, maintenance and management of public and reformatory prisons in and for the province; the establishment, maintenance and management of hospitals, asylums, charities and eleemosynary institutions in and for the province, other than marine hospitals; municipal institutions in the province; shop, saloon, tavern, auctioneer and other licences issued for the raising of provincial or municipal revenue; local works and undertakings other than interprovincial or international lines of ships, railways, canals, telegraphs, etc., or works which though wholly situated within one province are declared by the Federal Parliament to be for the general advantage either of Canada or of two or more provinces; the incorporation of companies with provincial objects; the solemnization of marriage in the province; property and civil rights in the province; the administration of justice in the province including the constitution, maintenance and organization of provincial courts both of civil and of criminal jurisdiction including procedure in civil matters in these courts; the imposition of punishment by fine, penalty or imprisonment for enforcing any law of the province relating to any of the aforesaid subjects; generally all matters of a merely local or private nature in the province.

Further, in and for each province the Legislature exclusively may under Sect. 93 make laws in relation to education subject to certain restrictions relating to the establishment of schools by religious minorities. These powers with similar restrictions were conferred on the more recently admitted provinces on their inclusion as units in the federation.

The Provincial Legislatures may also make laws under Sect. 95 in relation to agriculture and immigration subject to any laws of the Parliament of Canada in relation to these subjects.

Provincial Franchise.—Details regarding qualifications and disqualifications of the franchise are contained in the Elections Act of each province. In general every person, male or female, at the age of 21 years, who is a Canadian citizen or a British subject, who

* The information given in Subsections 1 to 10 of this Section is brought up to May 31, 1955, except where otherwise indicated. Provincial elections held between the date shown in each case and the date of going to press are covered in Appendix I.

complies with certain residence requirements in the province and the electoral district of polling and who falls under no statutory disqualifications, is entitled to vote. These qualifications apply with modifications to voters in all provinces. The principal exception gives voting privileges to persons in Saskatchewan at the age of 18 and in Alberta and British Columbia at 19 years.

Subsection 1.—Newfoundland

The Government of Newfoundland consists of a Lieutenant-Governor, an Executive Council and a Legislative Assembly. At May 31, 1955 Colonel the Honourable Sir Leonard Outerbridge was Lieutenant-Governor of the Province; he was commissioned on Aug. 17, 1949.

The Legislative Assembly has 28 members elected for a term of five years. The General Assembly elected Nov. 26, 1951 is the 30th in the history of Newfoundland and the 2nd since Confederation.

The Premier and each Cabinet Minister receives a salary of \$7,000 per annum plus a sessional indemnity of \$3,000. Each Member of the House of Assembly receives a sessional indemnity of \$3,000. An additional allowance of \$2,000 is made to the Leader of the Opposition.

14.—Legislatures of Newfoundland since Confederation and Ministry as at May 31, 1955

Legislatures 1949-55

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
May 27, 1949	1st General Assembly.....	4	July 13, 1949	Nov. 3, 1951
Nov. 26, 1951	2nd General Assembly.....	5	Mar. 12, 1952	1

¹ Life of Legislature not expired at May 31, 1955.

First Ministry

Party standing at latest General Election Nov. 26, 1951: 22 Liberals; 4 Progressive Conservatives; 2 vacant.)

NOTE.—Date of appointment does not necessarily mean that the Minister was sworn in on date given.

Office	Name	Date of First Appointment	Date of Present Appointment
Premier and Minister of Economic Development.....	Hon. J. R. SMALLWOOD.....	Apr. 1, 1949	Apr. 1, 1949
Attorney General.....	Hon. L. R. CURTIS.....	Apr. 1, 1949	Apr. 1, 1949
Minister of Public Welfare.....	Hon. F. W. ROWE.....	May 21, 1952	Apr. 10, 1955
Minister of Fisheries and Co-operatives.....	Hon. W. J. KEOUGH.....	July 29, 1949	July 29, 1949
Minister of Public Works.....	Hon. E. S. SPENCER.....	July 29, 1949	July 29, 1949
Minister of Education.....	Hon. J. R. CHALKER.....	Apr. 4, 1950	Dec. 23, 1952
Minister of Labour.....	Hon. C. H. BALLAM.....	Apr. 4, 1950	Apr. 4, 1950
Minister of Health.....	Hon. S. J. HEFFERTON.....	July 29, 1949	Apr. 10, 1955
Minister of Municipal Affairs and Supply.....	Hon. S. J. HEFFERTON.....	July 29, 1949	Dec. 23, 1952
Minister of Finance.....	Hon. GREGORY J. POWER.....	Dec. 15, 1951	Dec. 15, 1951
Minister of Provincial Affairs.....	Hon. MYLES P. MURRAY.....	Dec. 15, 1951	Dec. 15, 1951
Solicitor General.....	Hon. MYLES P. MURRAY.....	Dec. 15, 1951	Apr. 10, 1955
Minister of Natural Resources.....	Hon. F. W. ROWE.....	May 21, 1952	May 21, 1952
Minister without portfolio.....	Hon. P. J. LEWIS.....	Dec. 15, 1951	Dec. 15, 1951

Subsection 2.—Prince Edward Island

The Government of Prince Edward Island consists of a Lieutenant-Governor, an Executive Council and a Legislative Assembly.

The Honourable T. W. L. Prowse, Lieutenant-Governor of the Province at June 30, 1955, was commissioned to office on Oct. 4, 1950. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 86.

The General Assembly elected May 25, 1955 is the 48th in the history of Prince Edward Island Legislatures and the 23rd since Confederation. It has 30 members from 15 electoral districts who serve for a statutory term of five years. One-half of the Members of the Legislative Assembly are elected on a property vote. Each district elects one Councillor (elected on a property vote) and one Assembly member (elected on a general franchise vote).

The annual salary of the Premier is \$6,000 and each Cabinet Minister, with two exceptions, receives \$4,000; the Minister of Education and the Minister of Health each receive \$3,000. Each Member of the Assembly is paid the sum of \$1,000 for each session attended by him and an additional amount of \$500 tax free as indemnity for expenses incurred. The Speaker is paid an additional sum of \$400 and a further additional amount of \$200 tax free as an indemnity. The Leader of the Opposition is paid an additional sum of \$800 and a further additional amount of \$200 tax free for expenses incurred by him in relation to his official duties.

15.—Legislatures and Premiers of Prince Edward Island 1935-55 and Ministry as at June 30, 1955

Legislatures 1935-1955¹

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
July 23, 1935	18th General Assembly.....	5	Sept. 25, 1935	Apr. 21, 1939
May 18, 1939	19th General Assembly.....	4	Mar. 20, 1940	Aug. 20, 1943
Sept. 15, 1943	20th General Assembly.....	4	Feb. 15, 1944	Oct. 27, 1947
Dec. 11, 1947	21st General Assembly.....	5	Feb. 24, 1948	Mar. 30, 1951
Apr. 26, 1951	22nd General Assembly.....	6	Oct. 23, 1951	Apr. 27, 1955
May 25, 1955	23rd General Assembly.....	2	2	2

¹ The Ministries from 1935-55 were: 19th Ministry sworn in Oct. 14, 1933 under the leadership of Hon. W. J. P. MacMillan; 20th Ministry sworn in Aug. 15, 1935 under the leadership of Hon. W. M. Lea; 21st Ministry sworn in Jan. 14, 1936 under the leadership of Hon. T. A. Campbell; 22nd Ministry sworn in May 11, 1943 under the leadership of Hon. J. Walter Jones; 23rd Ministry sworn in May 25, 1953 under the leadership of Hon. A. W. Matheson.

² Legislature not yet opened at June 30, 1955.

Twenty-Third Ministry

(Party standing at latest General Election, May 25, 1955: 27 Liberals and 3 Progressive Conservatives.)

NOTE.—Ministers are shown at date of original appointment as a Minister and at date of appointment to present portfolio, before the formation of a new Ministry consequent upon the appointment of a new Premier. Date of appointment does not necessarily mean that the Minister was sworn in on date given.

Office	Name	Date of First Appointment	Date of Present Appointment
Premier, Attorney and Advocate General and President of the Executive Council....	HON. ALEXANDER W. MATHESON..	May 11, 1943	June 15, 1955
Minister of Public Works and Minister of Industry and Natural Resources.....	HON. DOUGALD MACKINNON.....	Sept. 16, 1939	June 15, 1955
Minister of Welfare and Minister of Labour...	HON. W. F. ALAN STEWART.....	May 18, 1944	June 15, 1955
Minister of Agriculture.....	HON. EUGENE CULLEN.....	Apr. 16, 1949	June 15, 1955
Minister of Education.....	HON. KEIR CLARK.....	June 16, 1951	June 15, 1955
Provincial Secretary and Treasurer.....	HON. B. EARLE MACDONALD.....	May 25, 1953	June 15, 1955
Minister of Highways.....	HON. J. GEORGE MACKAY.....	Jan. 18, 1955	June 15, 1955
Minister of Health.....	HON. M. LORNE BONNELL.....	June 15, 1955	June 15, 1955
Minister without portfolio.....	HON. EDWARD P. FOLEY.....	June 10, 1954	June 15, 1955

Subsection 3.—Nova Scotia

The Government of the Province of Nova Scotia has a Lieutenant-Governor, an Executive Council and a House of Assembly.

The Honourable Alistair Fraser, Lieutenant-Governor at June 30, 1955, was commissioned to office Sept. 1, 1952. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 87.

The General Assembly has 37 members elected for five years, the maximum duration of its existence. The Assembly elected May 26, 1953 was the 45th in Nova Scotia's history and the 22nd since Confederation.

The Premier of the Province receives a salary of \$12,000 per annum and each Cabinet Minister a salary of \$10,000 per annum. Each Member of the House of Assembly receives a sessional indemnity of \$2,400 and an allowance of \$1,200 for expenses incidental to the discharge of his duties. The Leader of the Opposition receives an allowance of \$3,000 in addition to his sessional indemnity.

16.—Legislatures and Premiers of Nova Scotia 1933-55 and Ministry as at June 30, 1955

Legislatures 1933-55¹

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Aug. 22, 1933	17th General Assembly.....	4	Mar. 1, 1934	May 20, 1937
June 29, 1937	18th General Assembly.....	4	Mar. 1, 1938	Sept. 19, 1941
Oct. 28, 1941	19th General Assembly.....	4	Feb. 19, 1942	Sept. 12, 1945
Oct. 23, 1945	20th General Assembly.....	4	Mar. 14, 1946	Apr. 27, 1949
June 9, 1949	21st General Assembly.....	4	Mar. 21, 1950	Apr. 14, 1953
May 26, 1953	22nd General Assembly.....	2	Feb. 24, 1954	²

¹ The Ministries from 1933-55 were: 12th Ministry sworn in Sept. 5, 1933 under the leadership of Hon. Angus L. Macdonald; 13th Ministry sworn in July 10, 1940 under the leadership of Hon. A. S. MacMillan; 14th Ministry sworn in Sept. 8, 1945 under the leadership of Hon. Angus L. Macdonald; 15th Ministry sworn in Apr. 13, 1954 under the leadership of Hon. Harold Connolly; 16th Ministry sworn in Sept. 30, 1954 under the leadership of Hon. Henry D. Hicks.

² Life of legislature not expired at June 30, 1955.

Sixteenth Ministry

(Party standing at latest General Election May 26, 1953: 22 Liberals, 12 Progressive Conservatives, 2 Co-operative Commonwealth Federation and one vacancy.)

NOTE.—See headnote to Table 15.

Office	Name	Date of First Appointment	Date of Present Appointment
Premier, Provincial Secretary, Chairman of the Nova Scotia Power Commission and Minister in charge of Administration of the Nova Scotia Liquor Control Act....	Hon. HENRY D. HICKS.....	Sept. 30, 1949	{ Sept. 30, 1954 Nov. 29, 1954 Feb. 15, 1954 June 11, 1954 Feb. 3, 1955
Minister of Highways and Public Works.....	Hon. A. W. MACKENZIE.....	Sept. 8, 1945	{ Apr. 13, 1954 June 27, 1955
Minister of Health.....	Hon. GEOFFREY STEVENS.....	Apr. 4, 1946	{ Apr. 27, 1955 Apr. 13, 1954
Attorney General and Minister of Municipal Affairs.....	Hon. M. A. PATTERSON.....	June 10, 1947	{ Apr. 13, 1954 June 27, 1955
Minister of Education and Provincial Treasurer.....	Hon. R. M. FIELDING.....	Dec. 7, 1949	{ Apr. 27, 1955 Apr. 13, 1954
Minister of Trade, Industry and Mines.....	Hon. W. T. DAUPHINEE.....	Sept. 5, 1950	{ Apr. 13, 1954 June 11, 1954 June 27, 1955 June 27, 1955
Minister of Agriculture and Marketing and Minister of Lands and Forests.....	Hon. COLIN H. CHISHOLM.....	June 11, 1954	{ June 11, 1954 June 27, 1955 June 27, 1955
Minister of Welfare and Labour.....	Hon. J. CLYDE NUNN.....	June 27, 1955	{ June 27, 1955 June 27, 1955

Subsection 4.—New Brunswick

The Government of New Brunswick has a Lieutenant-Governor, an Executive Council and a House of Assembly.

The Honourable David Laurence MacLaren, Lieutenant-Governor at May 31, 1955, was commissioned to office Nov. 1, 1945. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 89.

The General Assembly elected Sept. 22, 1952 is the 42nd in New Brunswick's history and the 15th since Confederation. It has 52 members who are elected for a statutory term of five years.

The Premier receives \$5,000 per annum in addition to the salary for any other portfolio he may hold. The salary of each Cabinet Minister is \$7,500, the amount paid as indemnity to each Member of the House of Assembly is \$2,000, plus an additional \$1,000 allowance for expenses. The Leader of the Opposition receives an additional \$3,000. An allowance of \$1,000 in addition to the regular indemnity is made to the Speaker.

17.—Legislatures and Premiers of New Brunswick 1935-55 and Ministry as at May 31, 1955

Legislatures 1935-55¹

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
June 27, 1935	11th General Assembly.....	4	Mar. 5, 1936	Oct. 26, 1939
Nov. 20, 1939	12th General Assembly.....	5	Apr. 4, 1940	July 10, 1944
Aug. 28, 1944	13th General Assembly.....	4	Feb. 20, 1945	May 18, 1948
June 28, 1948	14th General Assembly.....	4	Mar. 8, 1949	July 16, 1952
Sept. 22, 1952	15th General Assembly.....	2	Feb. 12, 1953	²

¹ The Ministries from 1935-55 were: 20th Ministry sworn in July 16, 1935 under the leadership of Hon. A. A. Dysart; 21st Ministry sworn in Mar. 13, 1940 under the leadership of Hon. J. B. McNair; 22nd Ministry sworn in Oct. 8, 1952 under the leadership of Hon. H. J. Flemming.

² Life of Legislature not expired at May 31, 1955.

Twenty-Second Ministry

(Party standing at latest General Election Sept. 22, 1952: 36 Conservatives, 16 Liberals.)

Office	Name	Date of First Appointment	Date of Present Appointment
Premier and Minister of Public Works.....	Hon. HUGH JOHN FLEMMING.....	Oct. 8, 1952	Oct. 8, 1952
Attorney General.....	Hon. WILLIAM J. WEST.....	Oct. 8, 1952	Oct. 8, 1952
Provincial Secretary-Treasurer.....	Hon. D. D. PATTERSON.....	Oct. 8, 1952	Oct. 8, 1952
Minister of Agriculture.....	Hon. C. B. SHERWOOD.....	Oct. 8, 1952	Oct. 8, 1952
Minister of Health and Social Services.....	Hon. J. F. MCINERNEY.....	Oct. 8, 1952	Oct. 8, 1952
Minister of Lands and Mines.....	Hon. N. B. BUCHANAN.....	Oct. 8, 1952	Oct. 8, 1952
Minister of Education.....	Hon. CLAUDE D. TAYLOR.....	Oct. 8, 1952	Oct. 8, 1952
Minister of Labour.....	Hon. ARTHUR E. SKALING.....	Oct. 8, 1952	Oct. 8, 1952
Minister of Industry and Development.....	Hon. J. ROGER PICHETTE.....	Oct. 8, 1952	Oct. 8, 1952
Minister of Municipal Affairs and President of the Executive Council.....	Hon. T. BARRITT PARLEE.....	Oct. 8, 1952	(June 1, 1954 Oct. 8, 1952)
Minister without portfolio and Chairman of the New Brunswick Electric Power Commission.....	Hon. EDGAR FOURNIER.....	Oct. 8, 1952	Oct. 8, 1952

Subsection 5.—Quebec

The Government of Quebec consists of the Lieutenant-Governor, an Executive Council, and a bicameral legislature—the Legislative Council and the Legislative Assembly.

The Honourable Gaspard Fauteux, Lieutenant-Governor at May 31, 1955, was commissioned to office Oct. 3, 1950. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 90.

The Legislative Council has 24 members nominated for life by the Lieutenant-Governor in Council. The Legislative Assembly has 92 elected members and like the Legislative Council has the power to bring forward Bills relating to civil and administrative matters and to the amendment or repeal of laws that already exist. A Bill to be approved by the

Lieutenant-Governor must have received the assent of both Houses. Only the Legislative Assembly can bring forward a Bill requiring the expenditure of public money. The maximum life of a Legislature is five years.

Salaries and allowances of the Premier, Members of the Executive Council, Legislative Council and Legislative Assembly are fixed according to R.S.Q. 1941, c. 4 as amended by 1-2 Elizabeth II as follows: all Members of Legislative Assembly and Legislative Council receive \$4,000 per annum as salary and \$2,000 by way of allowances; in addition the Premier receives \$10,000 as salary, \$4,000 allowances and \$2,000 for lodging allowance; Ministers with portfolio an additional \$8,000 as salary and \$2,000 allowances; Ministers without portfolio an additional \$3,000 salary and \$2,000 allowances; the Leader of the Opposition in the Legislative Assembly an additional \$6,000 salary, \$2,000 allowances and \$2,000 for lodging allowance; and the Leader of the Opposition in the Legislative Council an additional \$5,000 salary and \$2,000 allowances.

18.—Legislatures and Premiers of Quebec 1935-55, the Ministry and Members of the Legislative Council as at May 31, 1955

Legislatures 1935-55¹

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Nov. 25, 1935	19th General Assembly.....	1	Mar. 24, 1936	June 11, 1936
Aug. 17, 1936	20th General Assembly.....	4	Oct. 7, 1936	Sept. 23, 1939
Oct. 25, 1939	21st General Assembly.....	5	Feb. 20, 1940	June 29, 1944
Aug. 8, 1944	22nd General Assembly.....	4	Feb. 7, 1945	June 9, 1948
July 28, 1948	23rd General Assembly.....	4	Jan. 19, 1949	May 28, 1952
July 16, 1952	24th General Assembly.....	2	Nov. 12, 1952	9

¹ The Ministries from 1935-55 were: 16th Ministry sworn in July 8, 1920 under the leadership of Hon. L. A. Taschereau; 17th Ministry sworn in June 11, 1936 under the leadership of Hon. A. Godbout; 18th Ministry sworn in Aug. 24, 1936 under the leadership of Hon. Maurice L. Duplessis; 19th Ministry sworn in Nov. 10, 1939 under the leadership of Hon. A. Godbout; 20th Ministry sworn in Aug. 30, 1944 under the leadership of Hon. Maurice L. Duplessis.

² Life of Legislature not expired at May 31, 1955.

Twentieth Ministry

(Party standing at latest General Election July 16, 1952: 67 Union Nationale, 22 Liberals, 1 Independent and 2 vacancies.)

NOTE.—See headnote to Table 15.

Office	Name	Date of First Appointment	Date of Present Appointment
Premier and President of the Executive Council.....	Hon. MAURICE L. DUPLESSIS.....	Aug. 24, 1936	Aug. 30, 1944
Minister of Finance.....	Hon. ONÉSIME GAGNON.....	Oct. 6, 1936	Aug. 30, 1944
Minister of Lands and Forests and of Hydraulic Resources.....	Hon. JOHN S. BOURQUE.....	Aug. 24, 1936	Aug. 30, 1944
Minister of Health.....	Hon. J. H. ALBRYN PAQUETTE.....	Aug. 24, 1936	Aug. 30, 1944
Minister of Municipal Affairs.....	Hon. YVES PRÉVOST.....	July 15, 1953	July 15, 1953
Minister of Colonization.....	Hon. J. D. BÉGIN.....	Aug. 30, 1944	Aug. 30, 1944
Minister without portfolio.....	Hon. ANTONIO ELIE.....	Aug. 24, 1936	Aug. 30, 1944
Minister of Agriculture.....	Hon. LAURENT BARRÉ.....	Aug. 30, 1944	Aug. 30, 1944
Minister of Roads.....	Hon. ANTONIO TALBOT.....	Aug. 30, 1944	Aug. 30, 1944
Minister of Labour.....	Hon. ANTONIO BARRETTE.....	Aug. 30, 1944	Aug. 30, 1944
Minister of Game and Fisheries.....	Hon. CAMILLE POULIOT.....	Aug. 30, 1944	Aug. 30, 1944
Minister of Public Works.....	Hon. ROMÉO LORRAIN.....	Aug. 30, 1944	Aug. 30, 1944
Minister of Social Welfare and of Youth.....	Hon. JEAN-PAUL SAUVÉ.....	Sept. 18, 1946	Sept. 18, 1946
Minister of Trade and Commerce.....	Hon. PAUL BEAULIEU.....	Aug. 30, 1944	Aug. 30, 1944
Provincial Secretary.....	Hon. OMER CÔTÉ.....	Aug. 30, 1944	Aug. 30, 1944
Minister of Mines.....	Hon. W. M. COTTINGHAM.....	June 2, 1954	June 2, 1954
Minister of Transportation and Communications and Solicitor General.....	Hon. ANTOINE RIVARD.....	Dec. 15, 1948	Apr. 12, 1950
Minister without portfolio.....	Hon. TANCRÈDE LABRÉ.....	Aug. 30, 1944	Aug. 30, 1944
Minister without portfolio.....	Hon. ARTHUR LEClerc.....	July 23, 1952	July 23, 1952
Minister without portfolio.....	Hon. JACQUES MIQUELON.....	July 23, 1952	July 23, 1952
Minister without portfolio.....	Hon. WILFRID LABRÉ.....	July 23, 1952	July 23, 1952

Legislative Council

(According to seniority)

Name	Division	Date of Appointment
P. R. DU TREMBLAY.....	Sorel.....	Jan. 3, 1925
R. O. GROTHÉ.....	De Salaberry.....	Dec. 23, 1927
ELISÉE THÉRIAULT.....	Kennebec.....	Apr. 23, 1929
JACOB NICOL.....	Bedford.....	Sept. 16, 1929
VICTOR MARCHAND.....	Rigaud.....	Apr. 15, 1932
GUSTAVE LEMIEUX.....	Montarville.....	Dec. 2, 1932
HECTOR LAFERTÉ.....	Stadacona.....	July 23, 1934
ÉMILE MOREAU.....	Laizon.....	June 6, 1935
ALPHONSE RAYMOND.....	De Lorimier.....	Aug. 28, 1936
J. L. BARIBEAU (Speaker).....	Shawinigan.....	Jan. 14, 1938
PHILIPPE BRAIS.....	Grandville.....	Feb. 16, 1940
JULES BRILLANT.....	Golfe.....	Jan. 14, 1942
FRANK L. CONNORS.....	Mille Isles.....	Jan. 14, 1942
ROBERT R. NESS.....	Inkerman.....	Jan. 14, 1942
WILFRID BOVEY.....	Rougemont.....	Feb. 12, 1942
FÉLIX MESSIER.....	De Lanaudière.....	Feb. 12, 1942
ÉDOUARD ASSELIN.....	Wellington.....	Jan. 23, 1946
GEO. B. FOSTER.....	Victoria.....	Aug. 22, 1946
GÉRALD MARTINEAU.....	Les Laurentides.....	Aug. 22, 1946
J. OLIER RENAUD.....	Alma.....	Aug. 22, 1946
PATRICE TARDIF.....	De la Vallière.....	July 20, 1952
JOSEPH BOULANGER.....	De la Durantaye.....	Oct. 8, 1952
ÉDOUARD MASSON.....	Repentigny.....	Mar. 12, 1953
ALBERT BOUCHARD.....	La Salle.....	Nov. 24, 1954

Subsection 6.—Ontario

The Government of Ontario consists of the Lieutenant-Governor, the Executive Council and the House of Assembly. The Honourable Louis O. Breithaupt, LL.D., Lieutenant-Governor of the Province at June 30, 1955, was commissioned to office Jan. 24, 1952. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 92.

The House of Assembly, the single-chamber Legislature of the Province, is composed of 98 members elected for a statutory term of five years on an adult suffrage basis.

Besides the regular Departments of Government the Niagara Parks Commission, the Ontario Municipal Board, the Hydro-Electric Power Commission of Ontario, the Ontario-St. Lawrence Development Commission, the Ontario Northland Transportation Commission, the Liquor Control Board and the Liquor Licence Board have been created.

Under the provisions of the Legislative Assembly Act (R.S.O. 1950, c. 202, as amended 1952, c. 51) each Member of the Assembly is paid an annual indemnity of \$2,600 and an allowance for expenses of \$1,300. In addition the Speaker receives a special indemnity at the annual rate of \$3,000 and an expense allowance of \$2,000; the Chairman of the Committee of the Whole a special indemnity at the annual rate of \$1,000; and the Leader of the Opposition a special indemnity of \$3,000 and an annual allowance of \$2,000 for expenses. Each Member of the Cabinet having charge of a Department receives the ordinary indemnity as a Member of the Legislature of \$2,600 plus the \$1,300 expense allowance in addition to his salary as a Minister of the Crown. The salary provided in the Executive Council Act for the Prime Minister is \$14,000 and for a Cabinet Minister having charge of a Department \$10,000. Ministers without portfolio receive only the indemnity and expense allowance of a Member.

19.—Legislatures and Premiers of Ontario 1934-55 and Ministry as at June 30, 1955

 Legislatures 1934-55¹

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
June 19, 1934	19th General Assembly.....	3	Feb. 20, 1935	Apr. 9, 1936
Oct. 6, 1937	20th General Assembly.....	8	Dec. 1, 1937	June 30, 1943
Aug. 4, 1943	21st General Assembly.....	2	Feb. 22, 1944	Mar. 24, 1945
June 4, 1945	22nd General Assembly.....	4	July 16, 1945	Apr. 27, 1948
June 7, 1948	23rd General Assembly.....	4	Feb. 10, 1949	Oct. 6, 1951
Nov. 22, 1951	24th General Assembly.....	5	Feb. 21, 1952	May 2, 1955
June 29, 1955	25th General Assembly.....	2		

¹ The Ministries from 1934-55 were: 11th Ministry sworn in July 10, 1934 under the leadership of Hon. M. F. Hepburn; 12th Ministry sworn in Oct. 21, 1942 under the leadership of Hon. G. D. Conant; 13th Ministry sworn in May 18, 1943 under the leadership of Hon. H. C. Nixon; 14th Ministry sworn in Aug. 17, 1943 under the leadership of Hon. George A. Drew; 15th Ministry sworn in Oct. 10, 1948 under the leadership of Hon. Thomas L. Kennedy; 16th Ministry sworn in May 4, 1949 under the leadership of Hon. Leslie M. Frost. ² First session not convened at June 30, 1955.

Sixteenth Ministry

(Party standing at latest General Election, June 9, 1955: 83 Progressive Conservatives, 11 Liberals, 3 Co-operative Commonwealth Federation and 1 Independent Progressive Conservative.)

NOTE.—See headnote to Table 15.

Office	Name	Date of First Appointment	Date of Present Appointment
Prime Minister, President of the Council and Provincial Treasurer.....	Hon. LESLIE M. FROST.....	Aug. 17, 1943	May 4, 1949
Attorney-General.....	Hon. DANA H. PORTER.....	May 8, 1944	May 4, 1949
Minister of Municipal Affairs.....	Hon. GEORGE H. DUNBAR.....	Aug. 17, 1943	Aug. 17, 1943
Minister of Labour.....	Hon. CHARLES DALEY.....	Aug. 17, 1943	Aug. 17, 1943
Minister of Public Welfare.....	Hon. WILLIAM A. GOODFELLOW.....	Jan. 7, 1945	Jan. 7, 1945
Minister of Public Works.....	Lt.-Col. the Hon. WILLIAM GRIESINGER.....	Apr. 15, 1946	Jan. 20, 1953
Minister without portfolio.....	Capt. the Hon. HAROLD R. SCOTT.....	Nov. 28, 1946	June 3, 1952
Minister of Travel and Publicity.....	Hon. LOUIS F. CECILE.....	Oct. 19, 1948	Oct. 19, 1948
Minister of Health.....	Hon. MACKINNON PHILLIPS.....	Aug. 8, 1950	Aug. 8, 1950
Minister of Reform Institutions.....	Major the Hon. JOHN W. FOOTE, V.C.....	Nov. 16, 1950	Nov. 16, 1950
Minister of Education.....	Hon. WM. J. DUNLOP.....	Oct. 2, 1951	Oct. 2, 1951
Minister of Agriculture.....	Hon. FLETCHER S. THOMAS.....	Oct. 2, 1951	Jan. 20, 1953
Minister of Mines.....	Hon. PHILIP T. KELLY.....	June 3, 1952	June 3, 1952
Minister of Planning and Development.....	Hon. WILLIAM K. WARRENDER.....	Jan. 20, 1953	Jan. 20, 1953
Minister of Lands and Forests.....	Hon. CLARE E. MAPLEDORAM.....	July 7, 1954	July 7, 1954
Minister of Highways.....	Hon. JAMES N. ALLAN.....	Jan. 5, 1955	Jan. 5, 1955
Provincial Secretary and Registrar.....	Hon. WILLIAM M. NICKLE.....	Jan. 20, 1955	Jan. 20, 1955

Subsection 7.—Manitoba

Besides its Lieutenant-Governor Manitoba has an Executive Council composed of 10 members and a Legislative Assembly of 57 members elected for a statutory term of five years. The Honourable John Stewart McDiarmid, Lieutenant-Governor of the Province at May 31, 1955, was commissioned to office Aug. 1, 1953. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 94.

The Premier of the Province is paid a salary of \$10,000 per annum and each of the other Members of the Cabinet \$8,000. Members of the Legislature are each paid an indemnity of \$2,000 and an expense allowance of \$1,000. The Leader of the Opposition is paid an additional amount of \$2,500 and the Speaker of the Legislature an additional amount of \$2,500.

20.—Legislatures and Premiers of Manitoba 1932-55 and Ministry as at May 31, 1955

Legislatures 1932-55¹

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
June 16, 1932	19th General Assembly.....	4	Feb. 14, 1933	June 12, 1936
July 27, 1936	20th General Assembly.....	5	Feb. 18, 1937	Mar. 13, 1941
Apr. 22, 1941	21st General Assembly.....	5	Dec. 9, 1941	Sept. 8, 1945
Oct. 15, 1945	22nd General Assembly.....	4	Feb. 19, 1946	Sept. 29, 1949
Nov. 10, 1949	23rd General Assembly.....	7	Feb. 14, 1950	Apr. 23, 1953
June 8, 1953	24th General Assembly.....	1	Feb. 2, 1954	²

¹ The Ministries from 1932-55 were: 12th Ministry sworn in Aug. 8, 1922 under the leadership of Hon. J. Bracken; 13th Ministry sworn in Jan. 14, 1943 under the leadership of Hon. Stuart S. Garson; 14th Ministry sworn in Nov. 13, 1948 under the leadership of Hon. D. L. Campbell.

² Life of Legislature not expired at May 31, 1955.

Fourteenth Ministry

(Party standing at latest General Election, June 8, 1953: 32 Liberal Progressives, 3 Independent Liberal Progressives, 12 Progressive Conservatives, 5 Co-operative Commonwealth Federation, 1 Labour Progressive, 2 Social Credit, 2 Independents.)

NOTE.—See headnote to Table 15.

Office	Name	Date of First Appointment	Date of Present Appointment
President of the Council and Minister of Dominion-Provincial Relations.....	Hon. DOUGLAS L. CAMPBELL.....	Sept. 21, 1936	{ Nov. 13, 1948 Dec. 14, 1948
Attorney-General.....	Hon. MICHAEL N. HRYHORCZUK.....	Jan. 25, 1955	Jan. 25, 1955
Minister of Public Works.....	Hon. FRANCIS C. BELL.....	Dec. 14, 1948	Jan. 25, 1955
Minister of Mines and Natural Resources and Minister of Labour.....	Hon. CHARLES E. GREENLAY.....	Feb. 15, 1946	{ Sept. 4, 1953 Dec. 14, 1948
Minister of Health and Public Welfare.....	Hon. ROBERT W. BEND.....	Jan. 25, 1955	Jan. 25, 1955
Minister of Education.....	Hon. WALLACE C. MILLER.....	Feb. 15, 1946	Aug. 16, 1950
Minister of Municipal Affairs and Provincial Secretary.....	Hon. EDMOND PREFONTAINE.....	Dec. 1, 1951	{ Dec. 1, 1951 Sept. 4, 1953
Provincial Treasurer and Minister of Industry and Commerce.....	Hon. RONALD D. TURNER.....	Dec. 1, 1951	{ Dec. 1, 1951 Sept. 4, 1953
Minister of Agriculture and Immigration....	Hon. RONALD D. ROBERTSON....	Nov. 7, 1952	Nov. 7, 1952
Minister of Public Utilities.....	Hon. CHARLES L. SHUTTLEWORTH	Sept. 4, 1953	Sept. 4, 1953

Subsection 8.—Saskatchewan

The Government of the Province of Saskatchewan consists of a Lieutenant-Governor, an Executive Council and a Legislative Assembly.

The Honourable W. J. Patterson, Lieutenant-Governor at May 31, 1955, was commissioned to office July 4, 1951. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 95.

The statutory number of members of the Legislative Assembly is 53, elected for a maximum term of five years.

As of Apr. 1, 1954 the Premier receives \$8,500 and each Cabinet Minister \$7,000 annually in addition to the sessional indemnity while the Leader of the Opposition, the Speaker and the Deputy Speaker receive \$4,000, \$2,000 and \$1,000 respectively. The sessional indemnity of a Member of the Legislature is \$2,400 together with an expense allowance of \$1,200. Members for the three northernmost constituencies of Cumberland, Athabasca and Meadow Lake each receive an additional \$500.

21.—Legislatures and Premiers of Saskatchewan 1934-55 and Ministry as at May 31, 1955**Legislatures 1934-55¹**

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
June 19, 1934	8th General Assembly.....	4	Nov. 15, 1934	May 14, 1938
June 8, 1938	9th General Assembly.....	6	Jan. 19, 1939	May 10, 1944
June 15, 1944	10th General Assembly.....	5	Oct. 19, 1944	May 19, 1948
June 24, 1948	11th General Assembly.....	5	Feb. 10, 1949	May 7, 1952
June 11, 1952	12th General Assembly.....	2	Feb. 12, 1953	2

¹ The Ministries from 1934-55 were: 6th Ministry sworn in July 19, 1934 under the leadership of Hon. J. G. Gardiner; 7th Ministry sworn in Nov. 1, 1935 under the leadership of Hon. W. J. Patterson; 8th Ministry sworn in July 10, 1944 under the leadership of Hon. T. C. Douglas.

² Life of Legislature not expired at May 31, 1955.

Eighth Ministry

(Party standing at latest General Election, June 11, 1952: 42 Co-operative Commonwealth Federation, 11 Liberals.)

NOTE.—See headnote to Table 15.

Office	Name	Date of First Appointment	Date of Present Appointment
Premier, President of the Council and Minister of Co-operation and Co-operative Development.....	Hon. T. C. DOUGLAS.....	July 10, 1944	(July 10, 1944 Nov. 14, 1949)
Provincial Treasurer.....	Hon. C. M. FINES.....	July 10, 1944	July 10, 1944
Attorney General.....	Hon. J. W. CORMAN.....	July 10, 1944	July 10, 1944
Minister of Natural Resources, and Minister of Mineral Resources.....	Hon. J. H. BROCKELRANK.....	July 10, 1944	(Aug. 4, 1948 Apr. 1, 1953)
Minister of Highways and Transportation...	Hon. J. T. DOUGLAS.....	July 10, 1944	July 10, 1944
Minister of Education.....	Hon. W. S. LLOYD.....	July 10, 1944	July 10, 1944
Minister of Social Welfare and Rehabilitation.	Hon. J. H. STURDY.....	July 10, 1944	Aug. 4, 1948
Minister of Municipal Affairs.....	Hon. L. F. MCINTOSH.....	July 10, 1944	Aug. 4, 1948
Minister of Labour.....	Hon. C. C. WILLIAMS.....	July 10, 1944	Aug. 4, 1948
Minister of Agriculture.....	Hon. I. C. NOLLET.....	Feb. 26, 1945	Feb. 26, 1945
Minister of Public Works.....	Hon. J. A. DARLING.....	Aug. 4, 1948	Aug. 4, 1948
Minister of Public Health.....	Hon. T. J. BENTLEY.....	Nov. 14, 1949	Nov. 14, 1949
Minister of Telephones.....	Hon. A. G. KUZIAK.....	Oct. 24, 1952	Oct. 24, 1952
Provincial Secretary.....	Hon. J. W. BURTON.....	Oct. 24, 1952	Oct. 24, 1952

Subsection 9.—Alberta

The Government of the Province of Alberta is composed of the Lieutenant-Governor, the Executive Council and the Legislative Assembly.

The Honourable John J. Bowlen, Lieutenant-Governor at June 30, 1955, was commissioned to office Feb. 1, 1950. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 96.

There are 61 members of the Legislative Assembly who are elected for a maximum period of five years.

The salary of the President of the Executive Council is \$11,000 and of a Cabinet Minister \$8,500. A special allowance of \$2,500 is paid to the Leader of the Opposition. The sessional indemnity for each Member of the Legislative Assembly is \$2,400 plus an expense allowance of \$1,200.

22.—Legislatures and Premiers of Alberta 1935-55 and Ministry as at Aug. 2, 1955**Legislatures 1935-55¹**

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Aug. 22, 1935	8th General Assembly.....	9	Feb. 6, 1936	Feb. 16, 1940
Mar. 21, 1940	9th General Assembly.....	4	Feb. 20, 1941	July 7, 1944
Aug. 8, 1944	10th General Assembly.....	5	Feb. 22, 1945	July 16, 1948
Aug. 17, 1948	11th General Assembly.....	5	Feb. 17, 1949	June 28, 1952
Aug. 5, 1952	12th General Assembly.....	3	Feb. 10, 1953	May 12, 1955

¹ The Ministries from 1935-55 were: 6th Ministry sworn in July 10, 1934 under the leadership of Hon. R. G. Reid; 7th Ministry sworn in Sept. 3, 1935 under the leadership of Hon. Wm. Aberhart; 8th Ministry sworn in May 31, 1943 under the leadership of Hon. Ernest C. Manning.

Eighth Ministry

(Party standing at latest General Election June 29, 1955: 37 Social Credit, 15 Liberals, 3 Progressive Conservatives,

2 Co-operative Commonwealth Federation, 1 Liberal Conservative, 1 Coalition,

1 Independent Social Credit, 1 Independent.)

NOTE.—See headnote to Table 15.

Office	Name	Date of First Appointment	Date of Present Appointment
Premier, Minister of Mines and Minerals and Attorney General.....	HON. ERNEST C. MANNING.....	Sept. 3, 1935	May 31, 1943 Sept. 16, 1952 Aug. 2, 1955
Minister of Education.....	HON. ANDERS O. AALBORG.....	Sept. 9, 1952	Sept. 9, 1952 Aug. 2, 1955
Minister of Lands and Forests.....	HON. N. A. WILLMORE.....	Nov. 10, 1953	Aug. 2, 1955
Minister of Public Works.....	HON. JAMES HARTLEY.....	Aug. 2, 1955	Aug. 2, 1955
Minister of Health.....	HON. W. W. CROSS.....	Sept. 3, 1955	Jan. 5, 1954
Minister of Public Welfare.....	HON. R. D. JORGENSEN.....	Jan. 5, 1954	Jan. 5, 1954
Minister of Economic Affairs.....	HON. R. PATRICK.....	Aug. 2, 1955	Aug. 2, 1955
Minister of Municipal Affairs and Provincial Secretary.....	HON. ALFRED J. HOOKE.....	Apr. 20, 1945	Aug. 2, 1955
Minister of Agriculture.....	HON. LEONARD C. HALMRÄST.....	Jan. 3, 1953	Jan. 5, 1954
Minister of Industries and Labour.....	HON. R. REIERSON.....	Aug. 2, 1955	Aug. 2, 1955
Minister of Railways, Telephones and Highways.....	HON. GORDON E. TAYLOR.....	Dec. 27, 1950	Dec. 27, 1950 May 1, 1951
Provincial Treasurer.....	HON. E. W. HINMAN.....	Dec. 23, 1954	Aug. 2, 1955
Minister without portfolio.....	HON. F. C. COLBORNE.....	Aug. 2, 1955	Aug. 2, 1955

Subsection 10.—British Columbia

The Government of British Columbia has a Lieutenant-Governor, an Executive Council and a Legislative Assembly.

Colonel the Honourable Clarence Wallace, Lieutenant-Governor of the Province at May 30, 1955, was commissioned to office Oct. 1, 1950. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 98.

The Legislative Assembly, elected for a statutory term of five years, has 48 members.

Each Member of the Executive Council and the Legislative Assembly receives a sessional allowance of \$2,000 and \$1,000 for expenses. There is also paid to each Member a living allowance of \$15 for each day's attendance at the session and for each Saturday, Sunday or holiday that intervenes between two sittings of the House; the allowance of \$15 in any session is not paid in respect of more than 40 days. There is also allowed to each Member 25 cents for each mile of the distance between his place of residence and the city of Victoria, reckoning such distance, going and coming, according to the nearest mail route. In addition the Premier receives a salary of \$9,000 and each Member of the Executive Council \$7,500. The Leader of the Opposition has a special allowance of \$2,000 and the Speaker and Deputy Speaker receive an allowance of \$1,800 and \$500 respectively.

23.—Legislatures and Premiers of British Columbia 1933-55 and Ministry as at May 31, 1955**Legislatures 1933-55¹**

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Nov. 2, 1933 ²	18th General Assembly.....	4	Feb. 20, 1934	Apr. 15, 1937
June 1, 1937	19th General Assembly.....	5	Oct. 26, 1937	July 22, 1941
Oct. 21, 1941	20th General Assembly.....	4	Dec. 4, 1941	Aug. 31, 1945
Oct. 25, 1945	21st General Assembly.....	5	Feb. 21, 1946	Apr. 16, 1949
June 15, 1949	22nd General Assembly.....	4	Feb. 14, 1950	Apr. 10, 1952
June 12, 1952	23rd General Assembly.....	1	Feb. 3, 1953	Mar. 27, 1953
June 9, 1953	24th General Assembly.....	3	Sept. 15, 1953	³

¹ The Ministries from 1933-55 were: 22nd Ministry sworn in Nov. 15, 1933 under the leadership of Hon. T. D. Pattullo; 23rd Ministry sworn in Dec. 10, 1941 under the leadership of Hon. John Hart; 24th Ministry sworn in Dec. 29, 1947 under the leadership of Hon. B. I. Johnson; 25th Ministry sworn in Aug. 1, 1952 under the leadership of Hon. W. A. C. Bennett. ² Owing to the death of a candidate, polling day was delayed in the Electoral Districts of Vancouver Centre and Victoria City until Nov. 27, 1933. ³ Life of Legislature not expired at May 31, 1955.

Twenty-Fifth Ministry

(Party standing at latest General Election, June 9, 1953: 28 Social Credit, 14 Co-operative Commonwealth Federation, 4 Liberals, 1 Progressive Conservative, 1 Labour.)

NOTE.—See headnote to Table 15.

Office	Name	Date of First Appointment	Date of Present Appointment
Premier, President of the Council and Minister of Finance.....	HON. WILLIAM ANDREW CECIL BENNETT.....	Aug. 1, 1952	Aug. 1, 1952
Provincial Secretary and Minister of Municipal Affairs.....	HON. WESLEY DREWETT BLACK...	Aug. 1, 1952	Aug. 1, 1952
Attorney General.....	HON. ROBERT WILLIAM BONNER...	Aug. 1, 1952	Aug. 1, 1952
Minister of Lands and Forests and Minister of Mines.....	HON. ROBERT EDWARD SOMMERS...	Aug. 1, 1952	Aug. 1, 1952
Minister of Agriculture.....	HON. WILLIAM KENNETH KIERNAN	Aug. 1, 1952	Aug. 1, 1952
Minister of Highways.....	HON. PHILIP ARTHUR GAGLARDI...	Aug. 1, 1952	Mar. 15, 1955
Minister of Railways, Minister of Trade and Industry and Minister of Fisheries.....	HON. WILLIAM RALPH TALBOT CHETWYND.....	Aug. 1, 1952	Aug. 1, 1952
Minister of Labour.....	HON. LYLE WICKS.....	Aug. 1, 1952	Aug. 1, 1952
Minister of Education.....	HON. RAY GILLIS WILLISTON...	Apr. 14, 1954	Apr. 14, 1954
Minister of Health and Welfare.....	HON. ERIC CHARLES FITZGERALD MARTIN.....	Aug. 1, 1952	Aug. 1, 1952
Minister of Public Works.....	HON. WILLIAM NEELAND CHANT...	Mar. 15, 1955	Mar. 15, 1955

Subsection 11.—Yukon and Northwest Territories

Yukon Territory.—The Yukon was created a separate Territory in June 1898. Provision is made for a local Government composed of a Chief Executive, styled Commissioner, and an elective Legislative Council of five members with a three year tenure of office. The Commissioner administers the Government under instructions from the Governor in Council or the Minister of Northern Affairs and National Resources. The Commissioner in Council has power to make ordinances dealing with the imposition of local taxes, sale of liquor, preservation of game, establishment of territorial offices, maintenance of prisons and municipal institutions, issue of licences, incorporation of companies, solemnization of marriage, property and civil rights, administration of justice and generally all matters of a local nature in the Territory. The seat of local government is at Whitehorse, Yukon Territory.

TERRITORIAL COUNCIL

(Five members elected 1952, for three years)

Dawson.....	V. C. MELLOR	Whitehorse East.....	J. L. PHELPS
Mayo.....	A. F. BERRY	Whitehorse West.....	F. D. LOCKE
Carmacks.....	A. R. HAYES		

TERRITORIAL OFFICIALS

(AS AT MAY 31, 1955)

Commissioner (Whitehorse).....	F. H. COLLINS
Superintendent of Works and Buildings.....	H. TAIT
Registrar of Vital Statistics.....	W. D. ROBERTSON
Legal Adviser.....	F. G. SMITH

The Director of the Northern Administration and Lands Branch, Department of Northern Affairs and National Resources, is directly responsible for the general administration of the Territory under the Yukon Act (R.S.C. 1952, c. 298) and that Department has three lands and mining officials stationed in the Territory. Other Departments of the Federal Government including Justice, National Revenue, Transport, Post Office, etc., also maintain officials in the Yukon Territory.*

Northwest Territories.—As reconstituted on Sept. 1, 1905 these comprise:—

- (1) all that part of Canada north of the Sixtieth Parallel of North Latitude, except the portions thereof within the Yukon Territory and the Provinces of Quebec and Newfoundland, and
- (2) the islands in Hudson Bay, James Bay and Ungava Bay, except those islands within the Provinces of Manitoba, Ontario and Quebec.

The Northwest Territories Act (R.S.C. 1952, c. 331) provides for the appointment of a Commissioner to administer the government of the Territories under instructions given from time to time by the Governor in Council or the Minister of Northern Affairs and National Resources. As a matter of practice the appointment is held by the Deputy Minister of Northern Affairs and National Resources. For administrative purposes the Territories are divided into the provisional districts of Mackenzie, Keewatin and Franklin (Order in Council dated Mar. 16, 1918). The Northwest Territories Act, as amended, also provides for a Council of nine members, four of whom are elected in the Mackenzie District and five of whom are appointed by the Governor in Council. The Commissioner in Council has legislative powers respecting such matters as direct taxation, establishment and tenure of territorial offices, municipal institutions, controverted elections, licences, incorporation of companies, property and civil rights, administration of justice, game, education, hospitals and generally all matters of a merely local or private nature. The Council meets once each year in the Territories and at least once each year in Ottawa which is the Seat of Government. The resources, except game, remain under the control of the Federal Government. The administration of legislation passed by the Commissioner in Council and the management of resources under federal legislation are carried on by the Northern Administration and Lands Branch of the Department of Northern Affairs and National Resources. Administrative offices are located in the Territories at Fort Smith, Yellowknife, Hay River and Aklavik.

COUNCIL OF THE NORTHWEST TERRITORIES

(AS AT MAY 31, 1955)

Commissioner..... R. G. ROBERTSON**Deputy Commissioner**..... F. J. G. CUNNINGHAM**Members of the Council—**

Appointed..... LOUIS DE LA C. AUDETTE, C. M. DRURY, JEAN BOUCHER,
F. J. G. CUNNINGHAM, L. H. NICHOLSON

Elected..... FRANK CARMICHAEL, J. W. GOODALL, ROBERT C. PORRITT,
JOHN PARKER

Officers of the Council—

Secretary..... R. A. BISHOP

Legal Adviser..... WM. NASON

* Further information on officials of various Federal Government Departments serving the Yukon Territory may be obtained from the Director, Northern Administration and Lands Branch, Department of Northern Affairs and National Resources, Ottawa.

Section 3.—Municipal Government*

There is great dissimilarity in the organization of local government across Canada. Constitutionally jurisdiction over municipal affairs rests with the provincial governments and each province has passed legislation governing aspects of municipal incorporation, powers and duties. Differences in origin and independent growth as well as in geographic location and population composition have naturally resulted in individual requirements among municipalities which have been individually met. A short history of local government organization in Canada is given in the 1955 Year Book, pp. 87-88.

Constant fluctuation in organization is also a feature of local government, particularly evident in the recent period of urban growth. Two major developments in municipal organization occurred in Canada during 1954. Of widespread interest even beyond Canada—its progress is being followed in many of the larger urban areas abroad—was the establishment of the Municipality of Metropolitan Toronto on Jan. 1, 1954. It was incorporated to co-ordinate the more vital services of the thirteen municipalities comprising the metropolitan area of the city and, together with the corresponding Metropolitan School Board, provides education, water supply, major sewage services, area recreation, public transport, arterial roads and other metropolitan services. Local problems of education, public works and municipal services are left to the local school boards and the individual municipalities. The latter also provide police and fire protection. The whole area has been re-assessed on a uniform basis by the Metropolitan Council and a uniform levy is made on the constituent municipalities which continue to impose and collect the taxes.

A development of more immediate concern to rural municipal administration was the establishment in Alberta of the Coterminous Boundary Commission which was directed to adjust and bring into conformity the rural municipal and school district boundaries. Except for the Peace River area in the north the work was completed during 1955.

An outline of municipal organization at the end of 1954 in each of the provinces of Canada is given in the following paragraphs.†

Newfoundland.—Newfoundland has only one city, St. John's‡. The remainder of the population is dispersed in small settlements along the coast and only since 1937 have a few of the larger of these been set up individually as towns with local councils or, where two or three are close together, as rural districts (43 in 1953). These latter are not rural municipalities but merely towns consisting of two or more settlements. Local affairs in the remainder of the Province are administered by the Provincial Government. In 1949 the Local Government Act was passed to facilitate incorporations. There were 32 towns and four rural districts incorporated under the Act at the end of 1954 and 11 local government communities with lesser powers of government.

Prince Edward Island.—The Province has one city, Charlottetown, and seven towns, all incorporated by special Acts. They comprise less than one-half of one per cent of the area of the Island and only about a quarter of its population. The Village Service Act, 1951 provides for the incorporation of villages. The remaining area of the Province is not organized municipally, the three counties being provincial administrative units only.

Nova Scotia.—Municipal organization in Nova Scotia covers the whole of the Province. The two cities, Halifax and Sydney, operate under special charters and certain special legislation. Forty towns operate under the Town Incorporation Act but there are no municipalities incorporated as villages. Cities and towns are independent of counties. The rural area is divided into 18 counties which, in themselves, do not represent units of local government. However 12 of these counties each comprise one municipality and the other six each comprise two municipalities, making a total of 24 rural municipalities.

* Prepared in the Public Finance and Transportation Division, Dominion Bureau of Statistics.

† Municipalities are summarized by type of organization on p. 99.

‡ The incorporation of Corner Brook as a city became effective Jan. 1, 1956.

New Brunswick.—The Province is divided into 15 counties which are incorporated municipalities and have direct powers of local self-government in the rural areas. In effect therefore they are rural municipalities. In most cases certain of their powers apply in both rural and urban municipalities. The five cities—Saint John, Fredericton, Moncton, Edmundston and Lancaster—have special charters, and the 18 towns operate under the Towns Incorporation Act. There are three villages and 37 local improvement district areas within the counties but outside the cities, towns and villages; these have been incorporated for the provision of limited municipal services.

Quebec.—Municipal divisions in Quebec embrace the more thickly settled areas comprising about one-third of the Province, the remainder being governed by the Province as 'territories'. The organized area is divided into 76 county municipalities, which are divided again into local municipalities under the Municipal Code and designated as village, township or parish municipalities or simply as municipalities. The counties as such have no direct powers of taxation. Funds to finance the services falling within their jurisdiction are provided by the municipalities forming part thereof. Parts of some counties are not yet organized into incorporated units of local government, being in outlying areas with little or no population. There are 335 villages and 1,130 townships and parishes. A small number of these are independent of the counties in which they are located. Of the 36 cities a few have special charters. The remainder along with the 139 towns are governed by the Cities and Towns Act and numerous special Acts.

Ontario.—Slightly more than one-tenth of the area of Ontario is municipally organized, the remainder being governed entirely by the Provincial Government. The older section of the Province is divided into 43 counties, five of which are united with others for administrative purposes. Although an incorporated municipality each county is comprised of the towns, villages and townships situated within its borders, which provide its revenue. The Municipality of Metropolitan Toronto encompasses one city, four towns, three villages and five townships. There are 29 cities, 152 towns, 159 villages, 573 townships and 15 improvement districts in the Province. Some of each are located in the northern districts which are not organized into counties.

Manitoba.—Only the southern and settled section of Manitoba comprising less than one-eighth of the area is organized for local self-government. As in the other three western provinces there is no county organization and all municipalities are independent except of provincial control. There are four cities, three with special charters and one governed by a number of special Acts. General Acts govern the 34 towns, 38 villages, 109 rural municipalities and five suburban municipalities. An Act of 1944 (amended January 1945) authorizes organization of local government districts in unorganized or in disorganized (formerly organized but later unorganized) territory, and 12 such districts have been set up.

Saskatchewan.—All municipalities in Saskatchewan derive their powers from general Acts that are designated with the name of the type of municipality. There are eight cities, 99 towns, 379 villages and 296 rural municipalities. The area so organized consists of most of the southern two-fifths of the Province—the remainder of this portion is administered for local purposes by the Province in unincorporated local improvement districts. The northern three-fifths is sparsely populated and without local government though some municipal services are provided by the Province through operation of the Northern Administrative Area.

Alberta.—In Alberta there are eight cities, 146 villages and 48 rural municipalities known as municipal districts. Included in the latter are seven county municipalities which are not counties as they exist in Ontario for example but municipalities where the council administers education and municipal hospitals. There are also some unincorporated improvement districts administered by the Province in less densely settled areas but only about one-fifth of the Province is organized.

British Columbia.—Less than 0.5 p.c. of the area of British Columbia is organized into municipalities. Additional small areas have sufficient population to require administration of local activities by the Provincial Government. There are 35 cities, 49 villages and 29 districts. The latter are chiefly rural municipalities except for those adjacent to the principal cities of Victoria and Vancouver, which are largely urban in character. It should be emphasized however that the application of the name "city" is somewhat different from the commonly accepted meaning in that several of them have populations of fewer than 1,000 and perhaps one-half or more would not normally be incorporated as cities in another province.

Yukon and Northwest Territories.—There are two cities and one town in the Yukon Territory and two local administrative districts in the Northwest Territories, all of which provide some municipal services to their local areas. These are not shown in Table 24.

24.—Municipalities, by Official Designation¹ and by Statistical Classification² by Province as at Dec. 31, 1951

Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
OFFICIAL DESIGNATION ¹											
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Urban municipalities.....	44	20	42	26	510	340	76	486	229	84	1,857
Cities.....	1	1	2	5	36	29	4	8	8	35	129
Towns.....	43 ³	7	40	18	139	152	34	99	75	...	607
Villages.....	...	12 ⁴	...	3	335	159	38	379	146	49	1,121
Rural municipalities ⁵	4	...	24	15	1,130	588 ⁶	114 ⁷	296 ⁸	48 ⁹	29	2,248
Ontario and Quebec counties	...	...	...	...	76	397 ¹⁰	...	...	...	...	115
Totals, Incorporated Municipalities.....	48	20	66	41¹¹	1,716	967	190	782	277	113	4,220
STATISTICAL CLASSIFICATION ²											
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Municipalities in Metropolitan Areas ¹²	1	...	3	5	79	41	14	...	10	17	170
Urban.....	1	...	2	3	54	24	5	...	6	6	101
Rural.....	...	...	1	2	25	17	9	...	4	11	69
Other urban municipalities..	43	20	40	23	456	316	71	486	223	78	1,756
Other rural municipalities...	4	...	23	13	1,105	571	105	296	44	18	2,179
Semi-urban.....	...	...	...	...	...	43 ¹³	...	...	...	...	43
Other.....	4	...	23	13	1,105	528	105	296	44	18	2,136
Quebec and Ontario counties	...	...	...	...	76	391 ¹⁰	...	...	...	...	115
Totals, Incorporated Municipalities.....	48	20	66	41	1,716	967	190	782	277	113	4,220

¹ This section of the table groups the municipalities according to their official nomenclature, which is roughly indicative of size and nature (see footnote 5). ² This section of the table groups the municipalities under the classification devised by the Dominion-Provincial Conferences on Municipal Statistics, the classification being designed to bring municipalities into comparable groups for statistical presentations. ³ Includes 11 local government communities. ⁴ See text on p. 97. ⁵ Rural municipalities are designated by different names in the different provinces. ⁶ Includes 15 improvement districts. ⁷ Includes 5 units of self-government known as Suburban Municipalities; does not include local government districts. ⁸ Excludes 20 improvement districts. ⁹ Includes 7 county municipalities and changes resulting from establishment of coterminous boundaries (see p. 97). ¹⁰ Excludes 54 improvement districts. ¹¹ Excludes 50 local improvement districts. ¹² Municipalities shown wholly or partly in metropolitan areas by 1951 Census but does not include Municipality of Metropolitan Toronto, which is shown with counties. ¹³ Classified as suburban and semi-urban by provincial authorities.

Section 4.—Federal and Provincial Royal Commissions

Federal Royal Commissions.*—Royal Commissions established from Apr. 1, 1954 to May 31, 1955 are reported here in continuation of those previously reported in the Year Books beginning with the 1940 edition at pp. 1108-1110.

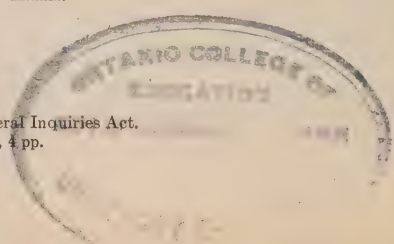
<u>Nature of Commission</u>	<u>Commissioner</u>	<u>Date</u>
To enquire into, review and report on the administration of quartz mining and placer mining in the Yukon Territory.	George Edward Cole	Apr. 29, 1954
To enquire into the application and effects of agreed freight rates as authorized by the Board of Transport Commissioners.	Hon. W. F. A. Turgeon	May 20, 1954
To enquire into the operation of the Patent Act, the Industrial Design Act, the Copyright Act and other related legislation.	Rt. Hon. J. L. Ilsley, <i>et al</i>	June 10, 1954
To enquire into the damage caused by the flood in the Humber River Valley, Ont.	John B. Carswell and D. Bruce Shaw	Oct. 20, 1954
To enquire into the coastal trade of Canada.	Hon. Mr. Justice W. F. Spence, <i>et al</i>	Mar. 1, 1955

Provincial Royal Commissions.—Only Royal Commissions established in 1954-55 are reported here, this list being in continuance of those in previous Year Books beginning with the 1948-49 edition.

<u>Province and Nature of Commission</u>	<u>Commissioner</u>	<u>Date</u>
NOVA SCOTIA		
Royal Commission on automobile insurance.	Hon. Eugene Q. Parker, Q.C.	Apr. 6, 1955
MANITOBA		
The Manitoba Liquor Enquiry Commission.	John Bracken	May 12, 1954
The Crop Insurance Commission.	Wilfrid G. Malaher	Dec. 1, 1954
ALBERTA		
Metropolitan Planning Commission to enquire into the administration and financing of school and municipal services in the cities of Edmonton, Calgary and surrounding areas.	Dr. G. F. McNally (Chairman), G. M. Blackstock, Percy G. Davies, Ivan C. Robinson, Charles P. Hays.	July 19, 1954
BRITISH COLUMBIA		
Royal Commission to enquire into matters connected with the enforcement of Orders of the Milk Board in Vancouver area and any other matter in relation to the production, marketing and distribution of whole milk in the Province.	Hon. Mr. Justice J. V. Clyne	Sept. 3, 1954†
Royal Commission to enquire into matters relating to Doukhobor lands.	His Hon. Judge Arthur Lord	Sept. 8, 1954
Royal Commission to enquire into all matters relating to the forest resources of the Province.	Hon. Chief Justice Gordon McG. Sloan	Jan. 7, 1955
Royal Commission to enquire into the circumstances surrounding the issuance of forest management licences since the enactment of Sect. 32A, c. 38 of the Statutes of 1947 for the purpose of ascertaining the truth of allegations made in the Legislative Assembly regarding impropriety in connection with the issuance of forest management licences.	His Hon. Judge Arthur E. Lord	Feb. 17, 1955
Royal Commission to enquire into the amount of damage, if any, suffered by reason of the construction of a logging road by the Comox Logging and Railway Company by those owners of lots who have not consented to the construction of the road and to enquire into the amount of costs which should be payable to the owners of lots.	His Hon. Judge Lawrence Arnold Hanna.	Mar. 29, 1955

* Commissions constituted under Part I of the Federal Inquiries Act.

† Interim report dated Feb. 2, 1955, mimeographed, 4 pp.



PART III.—ADMINISTRATIVE FUNCTIONS OF THE FEDERAL GOVERNMENT

In the following special article the Canada Year Book presents for the first time information concerning the administration and control of the financial affairs of the Federal Government.

FINANCIAL ADMINISTRATION OF THE GOVERNMENT OF CANADA*

The fundamental principles under which the financial affairs of the Government of Canada are administered and controlled are that no tax shall be imposed and no money shall be spent without the authority of Parliament and that expenditures shall be made only for the purposes authorized by Parliament.

There are a number of constitutional provisions relating to Parliament's control of finances, the most important of which are to be found in the British North America Act. Sect. 53 of the Act provides that bills for appropriating any part of the public revenue or for imposing any tax or impost shall originate in the House of Commons, and Sect. 54 further provides that no vote, resolution, address or bill for the appropriation of public moneys shall be adopted or passed by the House of Commons that has not been recommended to the House by a message of the Governor General in the session in which the vote, resolution, address or bill is proposed. In other words all taxing and appropriating measures must originate in the House of Commons and all requests for grants must come from the Crown through responsible ministers, and for such requests the Government is solely responsible. Until such a request is made the House cannot consider or approve a grant.

In practice, financial control is exercised through the adoption of a budgetary system based on the principle that all the financial needs of the Government for each fiscal year—that is, for the period from Apr. 1 of one year to Mar. 31 of the following year—shall be considered at one time, so that the Government, Parliament and the people may have clearly before them the financial problem as it affects the present and prospective condition of the public treasury.

ESTIMATES AND APPROPRIATIONS

Each year during the autumn months, the Minister of Finance writes a formal letter to his colleagues requesting them to have the estimates of the several departments for the following fiscal year prepared and submitted by a certain date to the Treasury Board. The Board, which is a Committee of the Queen's Privy Council for Canada, consists of the Minister of Finance as chairman, and five other Ministers named by the Governor in Council with such additional members of the Privy Council as the Governor in Council may nominate to serve as alternates. A senior officer of the Department of Finance is designated to act as secretary and the Department of Finance provides the Board with such staff as is necessary for the proper conduct of its business. Under the Financial Administration Act, the Board has a statutory duty to advise the Governor in Council on matters relating to finance, estimates, expenditures, financial commitments, establishments, revenues, accounts, the terms and conditions of employment of persons in the public service and general administrative policy in the public service.

When the departmental estimates are received they are assembled by officers of the Treasury Board, comparisons are made with the expenditures of previous years and digests of the supporting data furnished by departments and of other pertinent information are prepared.

The Board reviews each departmental submission in the light of probable revenues and of governmental policy generally, usually consulting the appropriate Minister and calling departmental officials before it. It may reject or reduce an expenditure proposal. Unresolved differences of view may be referred to the Cabinet for final decision. When the Board is satisfied with the substance and form of the estimates, they are submitted to the Cabinet for final consideration. After approval by the Cabinet, they are recommended

* Prepared under the direction of H. R. Balls, Director, Financial Administration and Accounting Policy Division, Department of Finance, Ottawa.

to the Governor General for his approval. At an early date in the parliamentary session, usually late in January or early in February, these estimates, known as the Main Estimates, are laid before the House of Commons by the Minister of Finance on behalf of the Government with a message from the Governor General transmitting and recommending them to the House.

On motion of the Minister of Finance the estimates are referred for consideration to the Committee of Supply, which is a committee of the whole House. In recent years it has been the practice to refer the estimates of certain departments to select committees of the House. For example, the estimates of the Department of External Affairs have been referred to the Committee on External Affairs, and items relating to the Canadian National Railways to the Committee on Government-owned Railways and Shipping. In 1955 a Committee on Estimates was appointed to which the estimates of the Departments of Citizenship and Immigration, Finance, Northern Affairs and National Resources, and Veterans Affairs were referred in order to relieve the House of a detailed consideration of each estimates item. A report to the House is made on the estimates by the Committee and they are then referred back to the Committee of Supply. The consideration of the estimates usually extends over a period of several months; each vote is the subject of a separate resolution and members of the House may question the Minister on any item. However, no private member or Minister on his own responsibility can introduce any new expenditure proposal or any amendment to an estimates item that would result in an increased expenditure.

When the examination of the individual items has been completed, the estimates as approved by the Committee of Supply are referred to the Committee of Ways and Means, also a Committee of the whole House, which is asked to consider a resolution for the introduction of a bill to appropriate moneys to meet the requirements as approved in the Committee of Supply. When the resolution is passed an appropriation bill is introduced and when approved by the House of Commons is sent to the Senate. When passed by both the Senate and the House of Commons it is given Royal Assent and becomes law. As the grants in the Appropriation Acts are grants to the Crown no funds may be disbursed until supply, voted by Parliament to the Crown, is released by a warrant prepared on an Order of the Governor in Council and signed by the Governor General.

Some weeks or even months may elapse after the commencement of the fiscal year before the main Appropriation Act is passed by Parliament and during this interval the functions of the Government must be carried on. To ensure that funds are available for this purpose it is usual for Parliament to pass an interim supply bill granting one-twelfth or one-sixth of the total of each item in the estimates, equivalent to one or two months' supply respectively. If Parliament has not completed its detailed consideration of the estimates before the expiry of the time for which supply has been granted, one or more additional interim supply bills may be introduced, each of which may provide for one or more months' additional supply.

Though every effort is made to cover all anticipated requirements of the fiscal year in the Main Estimates, inevitably some new and unforeseen requirements arise during the year. To provide for these, supplementary estimates are usually introduced after some months of the fiscal year have elapsed—and just prior to the end of the fiscal year further supplementary estimates are laid before the House. The supplementary and further supplementary estimates are dealt with by Parliament in the same manner as the Main Estimates.

In addition to the expenditure items included in the annual Appropriation Acts, there are a number of items which have been authorized by Parliament under the provisions of other statutes. Examples of these "statutory" items are interest on the public debt, family allowances and old age assistance payments. Although it is not necessary for Parliament to pass annually on these items, estimates of payments under these statutory authorities are included in the Main Estimates for purposes of information.

There is also a statutory provision for the expenditure of public money in emergencies where no specific parliamentary appropriation is available. Under Sect. 28 of the Financial Administration Act, the Governor in Council, upon the report of the Minister of Finance that there is no appropriation for the expenditure and upon the report of the appropriate Minister that the expenditure is urgently required, may order that a special warrant be prepared to be signed by the Governor General authorizing the disbursement of the amount estimated to be required. However the use of these special Governor General warrants is restricted to cases where an accident happens to any public work or building and an expenditure for the repair or replacement thereof is urgently required or where any other matter arises in respect of which an expenditure not foreseen or provided for by Parliament is urgently required for the public good. Moreover they may be issued only when Parliament is not in session or is under adjournment *sine die* or to a day more than two weeks after the day the accident happened or the matter requiring the expenditure arose. Governor General warrants are deemed to be appropriations for the year in which they are issued and any unspent balance lapses at the end of the fiscal year.

Every warrant is published in the *Canada Gazette* within 30 days after issue and a statement showing all warrants issued and the amounts thereof is laid before the House of Commons by the Minister of Finance within 15 days after the commencement of the next session of Parliament. No special warrant has been issued during the past five fiscal years.

The Fire Losses Replacement Account Act also provides for the expenditure of public moneys in emergencies. This Act was passed to ensure that, when a fire loss occurs to property under the administration or control of departments or designated agency, Crown corporations funds may be made available with the approval of the Treasury Board to proceed with the repair or replacement without delay. This legislation may be used only when the repair or replacement of the property destroyed or damaged is urgently and immediately required and when there is not sufficient money available in the appropriation for the Service suffering the loss. Any amounts expended thereunder must be charged subsequently to an appropriation or if no appropriation is available must be included in estimates for the Service suffering the loss.

In addition to expenditures for budgetary purposes in the strict accounting sense, Parliament authorizes the disbursement of money for purposes which are not reflected in the budgetary accounts but which are recorded in the Government's statement of assets and liabilities. Examples are the loans to and investments in Crown corporations such as the Canadian National Railways, Central Mortgage and Housing Corporation, and the St. Lawrence Seaway Authority, loans to international organizations and to national, provincial and municipal governments and loans to veterans and others. There are also many disbursements in connection with the various deposit and trust and insurance, pension and guaranty accounts which the Government holds or administers, including the old age security fund which is operated as a separate entity. Although these disbursements are excluded from the calculation of the annual budgetary surplus or deficit, they are all subject to appropriation by Parliament either in the annual Appropriation Acts or in other legislation.

THE BUDGET

Some time after the Main Estimates have been introduced the Minister of Finance presents his annual budget speech in the House of Commons on a motion that the House go into Committee of Ways and Means. In recent years it has become the practice for the Minister to table certain "budget papers" for the information of Parliament on the day before he makes his budget speech. These include a general review of economic conditions and a preliminary review of the Government's accounts for the fiscal year then ending. In his budget speech the Minister reviews the state of the national economy and the financial operations of the Government for the past fiscal year and gives a forecast of the probable financial requirements for the year ahead, taking into account the Main Estimates and making allowances for supplementary and further supplementary estimates and probable lapsings. After calculating the probable budgetary surplus or deficit based

on anticipated expenditures and forecasts of revenue from taxes at prevailing rates estimated in the light of expected economic conditions he then announces his proposals for increases or reductions in taxes and customs tariffs. If no changes are proposed all existing tax rates and customs tariffs remain in effect as it is unnecessary to re-enact tax laws each year. If a change is proposed in a commodity tax such as a sales tax or excise duty on a particular item it is usually made effective immediately and the Minister announces that it will be put into effect pending legislation which when passed will be retroactive to the date of the speech.

At the close of his address the Minister tables the formal resolutions for changes in the existing tax rates and customs tariff which in accordance with Parliamentary procedure must precede the introduction of any money bills. These resolutions give notice of the amendments which the Government intends to ask Parliament to make in the taxation statutes.

The budget speech is delivered in support of a motion that the House go into Committee of Ways and Means but Parliament does not act on the budget proposals until the motion has been adopted. The general debate on the motion to go into Committee of Ways and Means usually lasts for a considerable number of days spread over several weeks. However with the passage of the Minister's motion the way is clear for the consideration of the budget resolutions. When all resolutions have been approved by the Committee of Ways and Means a report to this effect is made to the House and the tax bills are introduced and thereafter are dealt with in the same manner as all other government financial legislation.

REVENUES AND PUBLIC MONEYS

The foregoing describes the processes whereby Parliament authorizes the raising and appropriation of public moneys. The administrative procedures whereby revenues are collected and expenditures are made are for the most part contained in the Financial Administration Act. With respect to revenues the basic requirement is that all public moneys shall be paid into the Consolidated Revenue Fund which is defined as the aggregate of all public moneys that are on deposit at the credit of the Receiver General. The Treasury Board has prescribed detailed regulations governing the receipt and deposit of such moneys. Although the collection of the greater part of all tax revenue is the responsibility of the Department of National Revenue, which administers the custom tariff and the income and excise tax laws passed by Parliament, substantial amounts are collected by other departments.

For the actual custody of public moneys use is made of the Bank of Canada and the chartered banks with their many branches throughout the country. The banks are designated by the Minister of Finance, whose official title is the Minister of Finance and Receiver General of Canada, and balances are allocated to the various banks on the basis of the relative amount of work done by each bank for the Government. The division of funds between the Bank of Canada on the one hand and the chartered banks on the other however, takes into account the immediate cash requirements of the Government to meet outstanding cheques and other obligations as well as consideration of monetary policy.

The Minister of Finance may also "for the sound and efficient management of the public money or the public debt" purchase and hold securities of Canada and pay for them out of the Consolidated Revenue Fund. Any securities so acquired may be sold and the proceeds paid into the Fund. Thus if cash balances in the Consolidated Revenue Fund are in excess of requirements for the immediate future they may be invested in interest earning assets.

EXPENDITURES

The two principal agencies exercising control over expenditures are the Treasury Board which has been described previously and the Comptroller of the Treasury, who is a senior officer of the Department of Finance, with representatives who act as accounting and disbursing officers stationed in all the principal departments.

Within the limits of major policies established by the Cabinet, the Treasury Board exercises a detailed central control over the budgets, programs and staffs of departments and over financial and administrative matters generally. Although the most important part of this control function is exercised during the consideration of the estimates the Board maintains a continuous control throughout the year over certain types of expenditure such as large construction or procurement contracts, the number of employees of various classes and the rates of salaries or wages to be paid to them and various other payments of an unusual nature. The purpose is to ensure that the scale of activities and commitments for the future are held within approved policies, that departments follow uniform, efficient and economical practices, and that the Government is informed of and approves any major development of policy or significant transaction that might give rise to public or parliamentary criticism.

To ensure that the decisions of Parliament, the Government and Ministers in regard to expenditures are enforced, there is a centralized accounting and disbursing system. The Financial Administration Act provides that no payment shall be made out of the Consolidated Revenue Fund without the authority of Parliament, and no charge shall be made against an appropriation except upon the requisition of the appropriate Minister of the department for which the appropriation was made or by a person authorized by him in writing. These requisitions, with certificates that the work has been performed and the material supplied and that the price charged is reasonable or according to contract together with such documents as may be required, are presented to the Comptroller of the Treasury. If the payment is a lawful charge against the appropriation, if it does not result in an expenditure in excess of the appropriation, if it does not reduce the balance available in the appropriation below the amount necessary to meet the commitments charged against it, and if it does not contravene any applicable legislative or executive requirements, the Comptroller will make the required payment. However if he declines to make a payment, disallows an item in an account or refuses to give a certificate, the Minister of the department concerned may report the circumstances to the Treasury Board for decision and the Board may confirm or overrule the action of the Comptroller and give such directions as are necessary to carry out its decision. The Comptroller may transmit to the Board any requisition with respect to which he desires its direction and the Board may order that payment be made or refused.

At the commencement of each fiscal year each department submits to the Treasury Board through the Comptroller a division or allotment of each item included in its estimates. When these allotments have been approved by the Board they cannot be varied or amended without the approval of the Board and expenditures charged to appropriations are limited to such allotments.

To avoid over-expenditure within a fiscal year the Comptroller records and controls commitments due to come in course of payment within the year for which Parliament has provided or has been asked to provide appropriations. Under the Financial Administration Act no contract providing for the issue of public funds may be entered into or have any force or effect unless the Comptroller certifies that there is a sufficient unencumbered balance available in an appropriation or in an item included in the estimates before the House of Commons to discharge any commitments under the contract that would be payable during the fiscal year in which the contract was entered into. In a few cases appropriations contain a limitation upon commitments to fall due in future years with an implication, but only an implication, that Parliament will vote funds in such years to meet commitments incurred within such limits. In general however the law does not place limits upon commitments incurred for payments in future years but the Government, through the Treasury Board and the Comptroller, maintains a careful control over these for it must be prepared in future to ask Parliament for appropriations to cover them.

Any unexpended amounts in the annual appropriations lapse at the end of the year for which they are granted and are not available for expenditure in subsequent years. However for 30 days subsequent to Mar. 31, payments may be made and charged to the previous year's appropriations for debts payable during or prior to that fiscal year.

Under the Financial Administration Act every payment pursuant to an appropriation is made under the control and direction of the Comptroller by cheque drawn on account of the Receiver General or by such other instrument as the Treasury Board may direct. In practice the paid Comptroller's cheques are cleared daily by the banks to the Cheque Adjustment Branch of the Department of Finance and the banks are reimbursed the same day by cheques drawn on the Receiver General's account with the Bank of Canada. In the Cheque Adjustment Branch, the paid cheques are examined and reconciled with the Comptroller's statements of cheques issued and are then retained until they are microfilmed and destroyed in accordance with regulations of the Treasury Board made on the recommendation of the Auditor General.

PUBLIC DEBT

In addition to the collection and disbursement of public moneys for budgetary and non-budgetary purposes the Government receives and disburses substantial sums in connection with its public debt operations. The Financial Administration Act provides that no money shall be borrowed or security issued without the authority of Parliament but with due parliamentary authority the Governor in Council may authorize the Minister of Finance to borrow money by the issue and sale of securities at such rate of interest and subject to such terms and conditions as the Governor in Council may approve. Although the specific authority of Parliament is required for new borrowings the Financial Administration Act authorizes the Governor in Council to approve the borrowing of such sums of money as are required for the redemption of maturing or called securities and, to ensure that the Consolidated Revenue Fund will be sufficient to meet disbursements lawfully authorized to be made from it, he may also approve the temporary borrowing of such sums as are necessary for periods not exceeding six months. The Bank of Canada acts as the fiscal agent of the Government in the management of the public debt.

ACCOUNTS OF CANADA

Under the Financial Administration Act, accounts are kept to show the revenues of Canada, the expenditures made under and the commitments chargeable against each appropriation, the other payments into and out of the Consolidated Revenue Fund, and such of the assets and direct and contingent liabilities as the Minister of Finance believes are required to give a true and fair view of the financial position of Canada.

The statement of assets and liabilities is arranged so as to disclose the amount of the net debt of Canada which, in accordance with the policy enunciated in the budget speech of May 18, 1920, is determined by offsetting against the gross liabilities only those assets which are regarded currently as readily realizable or interest- or revenue-producing. Consequently, though financial assets such as loans and investments are set up on the statement of assets and liabilities, the costs of fixed capital assets are charged to budgetary expenditures at the time of acquisition or construction and Government buildings, public works, national monuments, military assets and other capital assets are not recorded on the statement of assets and liabilities.

FINANCIAL STATEMENTS

Annually, on or before Dec. 31, or, if Parliament is not then in session, within 15 days after the commencement of the ensuing session, the *Public Accounts* is laid before the House of Commons by the Minister of Finance. The *Public Accounts* contains a survey of the financial transactions of the fiscal year, statements of the revenues and expenditures for the year and of the assets and direct and contingent liabilities of Canada as at the end of the year, together with such other accounts and information as are necessary to show the financial transactions and financial position of Canada or which are required by law to be reported in the *Public Accounts*. In recent years it has been the practice to publish in the *Public Accounts* the financial statements of all Crown corporations and the auditors' reports thereon. In addition a monthly statement of the Government's financial operations is published in the *Canada Gazette*.

THE AUDITOR GENERAL

The Government's accounts are subject to an independent examination by the Auditor General who is an officer of Parliament and removable only on address of the House of Commons and Senate. With respect to expenditures this examination is a post-audit for the purposes of reporting whether the accounts have been faithfully and properly kept and whether the money has been expended for the purposes for which it was appropriated by Parliament and the expenditures have been made as authorized; any audit before payment is the responsibility of the Comptroller of the Treasury. With respect to revenues the Auditor General is required to ascertain that all public money is fully accounted for and that the rules and procedures applied are sufficient to ensure an effective check on the assessment, collection and proper allocation of the revenue. With respect to public property he is required to satisfy himself that essential records are maintained and that the rules and procedures applied are sufficient to safeguard and control such property. The Auditor General reports to Parliament the results of his examination, calling attention to every case in which he has observed that (a) any officer or employee has wilfully or negligently omitted to collect or receive money belonging to Canada, (b) any public money was not duly accounted for and paid into the Consolidated Revenue Fund, (c) any appropriation was exceeded or was applied to a purpose or in a manner not authorized by Parliament, (d) an expenditure was not authorized or was not properly vouched or certified, (e) there was a deficiency or loss through the fraud, default or mistake of any person, (f) a special warrant authorized the payment of any money, and (g) any other case that he considers should be brought to the notice of the House. In addition the Auditor General can and in practice does report to Ministers, the Treasury Board or the Government any matter which he thinks calls for attention so that remedial action may be taken promptly.

PUBLIC ACCOUNTS COMMITTEE

It is the usual although not invariable practice to refer the *Public Accounts* and the *Auditor General's Report* to the Public Accounts Committee of the House of Commons which may review the reports in detail calling before them for this purpose the Auditor General and such other officers as it considers necessary.

Section 1.—Departments, Boards, Commissions, etc.

The following paragraphs indicate the functions of the various departments of government and the special boards and commissions in connection with the work of government.

Though it is not possible owing to the limitations of space to enumerate in this Section the details of each service or the divisions or sections of all the departments, the main branches are given along with those services that differ in some quality from the larger class of subjects handled by a department. The work of many of these departments is given in detail in later Chapters of this volume. The Index will be useful in locating required information.

Department of Agriculture.—This Department was established in 1867 (30 Vict., c. 53) and conducts the concerns of all phases of agriculture. Research and experimentation are carried out by the Science Service and the Experimental Farms Service; the maintenance of standards and protection of products by the Production Service and Marketing Service; reclamation and development by the Prairie Farm Rehabilitation Administration and the Maritime Marshland Rehabilitation Administration; security and price stability policies are administered under the Prairie Farm Assistance Administration and the Agricultural Prices Support Board. The results of work in these various fields and information on the policies of the Department in general are made available to the public through the Information Service.

Auditor General's Office.—The Office of Auditor General is authorized under the Financial Administration Act (R.S.C. 1952, c. 116). Duties include the auditing of accounts of expenditures and revenue of Canada and of Crown companies and other instrumentalities and the reporting thereon to Parliament.

Chief Electoral Office.—This Office was established in 1920 under the provisions of the Dominion Elections Act, now the Canada Elections Act (R.S.C. 1952, c. 23), and is responsible for the conduct of all federal elections as well as the elections of members of the Northwest Territories Council. In addition it conducts any vote taken under the Canada Temperance Act. The Chief Electoral Officer reports to Parliament through the Secretary of State.

Department of Citizenship and Immigration.—This Department was constituted in December 1949 (R.S.C. 1952, c. 67) and came into existence on Jan. 18, 1950, under the Minister of Citizenship and Immigration. The main work of the Department is carried on through the following four branches:—

The Canadian Citizenship Branch assists governmental and non-governmental agencies engaged or interested in facilitating the adjustment and integration of newcomers and in making Canadians conscious of their privileges and responsibilities as citizens. The Canadian Citizenship Registration Branch administers the Canadian Citizenship Act and is the custodian of all records under that Act and all Naturalization Acts previously in force. The Immigration Branch administers the Immigration Act and Regulations and is responsible for the selection, examination and movement of immigrants, the exclusion or deportation of undesirables and the settlement or establishment of immigrants in Canada. The activities of the Indian Affairs Branch include management of all Indian affairs. Its organization consists of a headquarters office at Ottawa, a regional supervisory staff, and 87 local agencies in the field.

The Minister of Citizenship and Immigration is responsible to Parliament for the National Film Board, the National Library, the Public Archives, and for the National Gallery of Canada which is governed by a Board of Trustees.

Civil Service Commission.—The Civil Service Commission of Canada dates from the Civil Service Act of 1908. Under this Act the Commission was given the responsibility of applying, wherever possible, the principle of appointment by merit in filling permanent positions within departmental headquarters positions at Ottawa, termed the "inside service".

The Civil Service Act of 1918 extended the competitive system of appointments to cover the outside as well as the inside service and temporary as well as permanent appointments. It made the Commission responsible for establishing a system of organization and classification that would secure uniformity in the staffing of the various departments and in the salaries paid for work of equal levels of difficulty and responsibility.

The jurisdiction of the Commission now extends to all departments of the Government and to a large number of boards and commissions, exclusive of Crown corporations.

The Civil Service Commission, which reports to Parliament and makes recommendations to the Government through the Secretary of State, consists of three members, one of whom serves as Chairman. Each member of the Commission is appointed by the Governor in Council for a term of 10 years and each has the rank and standing of a Deputy Minister. The Commission has a staff of approximately 580 persons working under its direction and located in the headquarters office at Ottawa and in district offices at St. John's, Nfld., Halifax, N.S., Saint John, N.B., Montreal, Que., Toronto, Ont., Winnipeg, Man., Regina, Sask., Edmonton, Alta., and Vancouver, B.C.

Department of Defence Production.—This Department was established on Apr. 1, 1951 when the Defence Production Act (R.S.C. 1952, c. 62) was proclaimed. Under this Act the Minister is given, with certain exceptions, authority to buy defence supplies and construct defence projects required by the Department of National Defence. The Minister may, if authorized by the Governor General in Council, undertake for an associated government anything he may undertake for the Canadian Government. In addition all powers, duties and functions that theretofore were vested in the Minister of Trade and Commerce under any contract, agreement, lease or other writing entered into pursuant to the Department of Munitions and Supply Act, 1939, or the Defence Supplies Act, 1950 are vested in the Minister of Defence Production.

Broadly, the Department's functions are to procure military goods, to construct defence installations and to organize industry for defence as required on behalf of the Department of National Defence, other government departments, and associated governments; to promote the expansion of defence production facilities and the development of defence supporting industries particularly of strategic resources important for the defence of Canada and its allies; and to ensure adequate supplies of essential materials and services for defence requirements. The main procurement units of the Department are six production branches—Aircraft, Ammunition, Electronics, Gun, Machine Tool and Shipbuilding, and the General Purchasing Branch. In addition, there are various service branches which include Administration, Comptroller's, Economics and Statistics, Financial Adviser's, Industrial Security, Legal, and Secretary's.

The following Crown companies report to Parliament through the Minister of Defence Production: Canadian Arsenals Limited, Canadian Commercial Corporation, Crown Assets Disposal Corporation, Defence Construction (1951) Limited, and Polymer Corporation Limited.

Dominion Bureau of Statistics.—The Dominion Bureau of Statistics was set up by statute in 1918 as a central statistical department for Canada (8-9 Geo. V, c. 43). In 1948 this statute, which had been consolidated as the Statistics Act (R.S.C. 1927, c. 190), was repealed and replaced by the Statistics Act (R.S.C. 1952, c. 257); it was amended by 1-2 Elizabeth II, c. 18, assented to Mar. 31, 1953.

The function of the Dominion Bureau of Statistics is to compile, analyse and publish statistical information relative to the commercial, industrial, financial, social and general condition of the people and to conduct a census of population and agriculture of Canada at ten year intervals.

The Bureau is the principal publication agency of the Federal Government; the subjects of the reports cover all aspects of the national economy. The Bureau reports to Parliament through the Minister of Trade and Commerce.

Department of External Affairs.—This Department was established in 1909 by "An Act to create a Department of External Affairs" (R.S.C. 1952, c. 68). Its main function is the protection and advancement of Canadian interests abroad. The head of the Department of External Affairs is the Secretary of State for External Affairs. The senior permanent officer of the Department is the Under-Secretary (Deputy Minister) who is the chief adviser to the Secretary of State for External Affairs. He is assisted by a Deputy Under-Secretary and by three Assistant Under-Secretaries and a Legal Adviser and is advised by officers in charge of the various divisions, each responsible for a part of the work of the Department. The divisional heads are assisted by Foreign Service Officers, Administrative Officers and by the administrative staff of clerks, stenographers and typists. While serving abroad Foreign Service Officers are formally designated as Ambassadors, Ministers, Counsellors, First, Second and Third Secretaries at diplomatic posts and as Consuls General, Consuls and Vice-Consuls at consular posts. Fifty-eight diplomatic and consular posts are maintained abroad by Canada.

The work of the Department at Ottawa is performed by 17 divisions which can be grouped according to their functions into three categories—political, functional and administrative. There are five political divisions—American, Commonwealth, European, Far Eastern and United Nations; eight functional divisions—Consular, Defence Liaison (1) and (2), Economic, Information, Legal, Historical Research and Reports, and Protocol; and four administrative divisions—Establishments and Organization, Finance, Personnel, Supplies and Properties.

Department of Finance.—This Department, created on June 22, 1869 by an Act respecting the Department of Finance (32-33 Vict., c. 4), is under the authority of the Minister of Finance. The Department is responsible for the financial administration of Canada including raising the money required for the various governmental activities by way of taxation or borrowing. The Comptroller of the Treasury, an officer of the Department, is responsible for all Government disbursements.

The work of the Department is organized in seven principal Divisions: Administration, Financial Administration and Accounting Policy, Superannuation, Treasury Board, Taxation, Economic Policy, and International Economic Relations. The Royal Canadian Mint is a branch of the Department. The Inspector General of Banks and the Comptroller of the Treasury are officers of the Department.

The Tariff Board and the Canadian Farm Loan Board are responsible to Parliament through the Minister of Finance.

Department of Fisheries.—The Department of Fisheries was first organized under a Minister of Fisheries in 1930. Prior to that date the federal fisheries services were maintained by the former Department of Marine and Fisheries, established in 1868. The provinces, under various arrangements, have certain administrative responsibilities in the fisheries but the legislative authority for the regulations of coastal and fresh water fisheries is with the Federal Department of Fisheries.

The work of the Department includes: conservation and development of the fisheries through the enforcement of fishing regulations, the operation of fish culture establishments, management and improvement of spawning streams and control of predators; inspection of fish products for quality control and the encouragement of industrial development; promotion of the greatest utilization of fishery products and a proper public understanding of the resource and the industry.

Agencies connected with the Department are the Fisheries Prices Support Board and the Fisheries Research Board of Canada. The Department is represented on these International Commissions: Pacific Salmon Fisheries, Pacific Halibut, the Northwest Atlantic Fisheries, North Pacific Fisheries, and Whaling.

Department of Insurance.—The Minister of Finance is responsible for the Department of Insurance which originated in 1875 as a branch of the Department of Finance but was constituted a separate Department in 1910. It is authorized and governed by the Department of Insurance Act (R.S.C. 1952, c. 70). Under the Superintendent of Insurance, the Department administers the statutes of Canada applicable to: insurance, trust and loan companies incorporated by the Parliament of Canada; provincially incorporated insurance companies registered with the Department; British and foreign insurance companies operating in Canada; small loans companies and money-lenders; and Civil Service insurance.

Under the relevant provincial statutes the Department examines provincial trust companies in the Provinces of Manitoba and New Brunswick and loan and trust companies in the Province of Nova Scotia.

A Fire Prevention Branch was organized in 1919 with responsibility for the administration of former Sect. 515 of the Criminal Code. Since that time it has maintained fire loss records, made inspections, reported on fire protection legislation and protection methods and endeavoured to extend and co-ordinate fire prevention work in Canada. In 1954 this Branch was transferred to the Department of Public Works.

Department of Justice.—This Department, established by 31 Vict., c. 39 (1868), now operates under authority of the Department of Justice Act (R.S.C. 1952, c. 71). It provides legal services to the Government and the various government departments including preparing and settling government legislation, settling instruments issued under the Great Seal, regulating and conducting litigation for or against the Crown, superintending the acquisition of property and prosecutions under federal legislation other than the Criminal Code, administers federal statutes dealing with legal matters and provides administrative services for the Supreme Court of Canada and the Exchequer Court.

The Department also superintends the penitentiaries and administers the prison system of Canada.

Department of Labour.—The Department of Labour was established in 1900 by Act of Parliament (63-64 Vict., c. 24) and now operates under authority of the Department of Labour Act (R.S.C. 1952, c. 72). The Department administers, under the Minister of Labour, legislation dealing with: industrial relations, investigation of disputes, etc.; fair employment practices; the regulation of fair wages and hours of labour; reinstatement in civil employment; government annuities; government employee compensation; merchant seamen compensation; vocational training; promotion of labour management co-operation services; co-ordination of services for rehabilitation of disabled civilians. The Department publishes the *Labour Gazette*, as well as bulletins giving information on industrial and related subjects.

The Unemployment Insurance Commission, which also maintains the National Employment Service, reports to the Minister of Labour. The Canada Labour Relations Board acts on behalf of and the National Advisory Council on Manpower acts in an advisory capacity to the Minister of Labour and the Merchant Seamen Compensation Board reports to the Minister of Labour. The Department is the official liaison agency between the Canadian Government and the International Labour Organization.

Department of Mines and Technical Surveys.—This Department was created by an Act of Parliament (13 Geo. VI, c. 17) which received Royal Assent on Dec. 10, 1949. Its establishment resulted from the reorganization of certain former departments into an integrated organization whose primary function is to provide technological assistance in the development of Canada's mineral resources through investigations, studies and research in the fields of geology, mineral dressing and metallurgy, and geodetic, topographic and other surveys. The Department is under the Minister of Mines and Technical Surveys and is divided into five branches: the Surveys and Mapping Branch, the Geological Survey of Canada, the Mines Branch, the Dominion Observatories, and the Geographical Branch.

The Department also administers the Explosives Act which regulates the manufacture, testing, sale, storage and importation of explosives, and the Emergency Gold Mining Assistance Act which provides cost-aid to the gold industry.

Boards and Commissions are: Canadian Board on Geographical Names; Board of Examiners for Dominion Land Surveyors; International Boundary Commission and Interprovincial Boundary Commissions.

Department of National Defence.—The Department of National Defence was established on Jan. 1, 1923 by the Department of National Defence Act, 1922 and was originally an amalgamation of Militia and Defence, the Naval Service and the Air Board. The Department and Services now operate under the National Defence Act (R.S.C. 1952, c. 184).

In 1940 additional Ministers for Naval and Air Services were appointed and the Department was organized under a Minister of National Defence and two additional Ministers so that there was a Minister and staff for each of the Armed Services. The Department operated under this organization until the cessation of hostilities.

Upon demobilization of the wartime forces the appointment of Ministers of National Defence for Naval Services and Air Service ceased and the Armed Forces were, in 1946, again administered by the Minister of National Defence without additional ministers. In 1953 under authority of an amendment to the National Defence Act an Associate Minister of National Defence was appointed, but in 1954 this appointment became vacant and the Department is again administered solely by the Minister of National Defence.

Department of National Health and Welfare.—This Department was established in October 1944 under the authority of the Department of National Health and Welfare Act (R.S.C. 1952, c. 74). The Department, headed by the Minister of National Health and Welfare, is composed of three branches—Health, Welfare, and Administration—and is administered through two Deputy Ministers.

The Health Branch is divided into three directorates—Health Services, Food and Drugs, and Indian Health Services. It has 14 Divisions active in certain public health fields divided into five main groups—Medical Advisory, Research Development, Environmental Health, Health Insurance Studies, and Health Grants Administration—each of which is headed by a Principal Medical Officer.

The Welfare Branch is made up of the Divisions of Family Allowances and Old Age Security, Old Age Assistance, and Blind and Disabled Persons Allowances. The Department is also responsible for federal civil defence planning, with the Civil Defence Co-ordinator reporting to both Deputy Ministers. The Administration Branch includes divisions where activities cover both health and welfare fields, such as research, information, legal and library services, as well as administrative, personnel and purchasing and supply services.

National Library.—The National Library Act, proclaimed Jan. 1, 1953, brought the National Library into being. Though at an early stage of organization, the Library publishes *Canadiana*—a monthly catalogue of new publications relating to Canada—and work is well advanced on a national union catalogue to serve as a key to the contents of all important libraries in Canada. The National Librarian reports to the Minister of Citizenship and Immigration.

National Museum of Canada.—The National Museum illustrates the natural history of Canada—its geology, biology and anthropology. It was formerly part of the Geological Survey, founded in 1842, but was separated from it in 1920, and is now part of the Department of Northern Affairs and National Resources. The Museum carries out field investigations in botany, zoology, vertebrate palæontology, archæology and ethnology including studies of folk-lore and folk-songs, publishes the results of its research and carries out an extensive educational program.

Department of National Revenue.—From Confederation until May 1918, customs and inland revenue duties were administered by separate departments; after that date they were amalgamated under one Minister as the Department of Customs and Inland Revenue. In 1921 the name was changed to the Department of Customs and Excise. In April 1924 collection of income taxes was placed under the Minister of National Revenue and under the Department of National Revenue Act, 1927 the Department became known as the Department of National Revenue.

The Department is responsible for the assessment and collection of customs and excise duty, taxes and revenues and other services by ports and outports as well as for the assessment and collection of income taxes and succession duties.

The Minister of National Revenue is responsible to Parliament for the Income Tax Appeal Board and also reports to Parliament for the Canadian Broadcasting Corporation.

Department of Northern Affairs and National Resources.—The Department of Northern Affairs and National Resources was established in December 1953, superseding the Department of Resources and Development. In addition to Administration Services, which performs auxiliary functions, the Department is divided into five branches: the National Parks Branch administers the National Parks and National Historic Parks of Canada, National Historic Sites, and wildlife matters coming within the jurisdiction of the Federal Government, and has charge of the National Museum of Canada; the Engineering and Water Resources Branch is responsible for the investigation of water power resources, for the administration of federal assistance to the provinces under the Canada Water Conservation Assistance Act and for federal interests in certain joint federal-provincial construction projects; the Northern Administration and Lands Branch is responsible for the administration of various Federal Acts, Territorial ordinances and regulations pertaining to the government of the Northwest Territories, for the conduct of certain business arising from the general administration of the Yukon Territory, for the administration of natural resources in these Territories, and for Eskimo affairs, as well as for certain lands and mineral rights in the provinces vested in the Crown in the right of Canada; the Forestry Branch conducts investigations in the protection and utilization of the forest resources of Canada, maintains forest experiment stations and forest products laboratories and administers federal assistance to the provinces under the Canada Forestry Act; and the Canadian Government Travel Bureau promotes the tourist industry by encouraging tourist travel from abroad and interprovincial travel in Canada.

The Minister of Northern Affairs and National Resources is also responsible to Parliament for the Eastern Rockies Forest Conservation Board, the Northwest Territories Power Commission, the National Battlefields Commission. The Historic Sites and Monuments Board of Canada, an honorary body of recognized historians representing the various provinces, and the Advisory Board on Wildlife Protection act in an advisory capacity to the Minister in these fields. The Deputy Minister is Commissioner of the Northwest Territories.

Post Office Department.—Administration and operation of the Canada Post Office, by virtue of the Post Office Act (R.S.C. 1952, c. 212) and under the Postmaster General, includes all phases of postal activity, personnel, mail handling, postal accommodation, transportation of mails by land, water, rail and air and the direction and control of financial services including the operation of money order and savings bank business.

Public Archives.—The Public Archives was founded in 1872 and is administered under the Public Archives Act (R.S.C. 1952, c. 222) by the Dominion Archivist who has the rank of a Deputy Minister and reports to Parliament through the Minister of Citizenship and Immigration. Its purpose is to assemble and make available to the public a comprehensive collection of historical source material relating to the history of Canada. Major emphasis is placed upon official records of the Government and the personal papers of political leaders and other prominent figures. These are supplemented by copies of many records in the British and French archives that relate to Canada, a fine map collection, a historical library, and many prints, paintings and photographs.

Department of Public Printing and Stationery.—This Department was established in 1886 and is in the charge of the Queen's Printer and Controller of Stationery.

The Department is responsible for supplying all requirements of printing and stationery to Parliament and Departments of the Canadian Government; the distribution and sale of government publications; the publication of the *Canada Gazette*, and all departmental reports, papers, etc., required to be published by authority of the Governor General in Council (R.S.C. 1952, c. 226) and the publication of the Statutes of Canada (R.S.C. 1952, c. 230).

The Department of Public Printing and Stationery is under the jurisdiction of the Secretary of State.

Department of Public Works.—This Department was constituted in 1867 and operated under the legislative authority of the Public Works Act and other Acts of Parliament (*see* p. 124). It is responsible for the management, charge and direction of the public works of Canada and except as specifically provided in other Acts attends to the construction and maintenance of public buildings, wharves, piers, roads and bridges and the undertaking of dredging and navigable waters protection work. The Department maintains architectural and engineering staffs in each province in addition to the Administrative, Architectural, Engineering and Purchasing and Stores Branches at Ottawa. In 1954 the Fire Prevention Branch of the Department of Insurance was transferred to the Department of Public Works.

The Minister of Public Works is responsible to Parliament for the Central Mortgage and Housing Corporation and for federal interests in the Trans-Canada Highway.

Department of the Secretary of State.—The Secretary of State and Registrar General of Canada is the official medium of communication with the Throne through the Governor General, as well as between the federal and provincial governments through the Lieutenant-Governors, and is the custodian of the Great Seal of Canada and of the Privy Seal of the Governor General. He is responsible for the preparation and tabling of returns in Parliament. He administers legislation relating to patents of invention, trade marks, industrial designs, timber marking, copyright, companies, boards of trade, the registration of trade unions, public officers, public documents and governmental and parliamentary translations. He is also the Custodian of Enemy Property.

The Secretary of State has certain responsibilities with respect to decorations, precedence and ceremonial. The Awards Co-ordination Committee and the Committee on the use of Parliament Hill and the National War Memorial fall within his purview.

Finally, he is the Minister of the Department of Public Printing and Stationery and the spokesman in Cabinet and Parliament of the Civil Service Commission and the Chief Electoral Officer.

Trade and Commerce.—The Department of Trade and Commerce was established by Act of Parliament on June 23, 1887 but did not function until Dec. 5, 1892 when an Order in Council to this effect was passed. Before the formation of the Department assistance in the development of Canada's external trade was provided by eight Canadian Commercial Agents—five in the West Indies, two in Great Britain and one in France—who served on a part time basis and were responsible to the Minister of Finance. In 1895 a Canadian Commercial Agent was appointed at Sydney, Australia as the first full time salaried Agent of the Department—the first Canadian Government Trade Commissioner in the present meaning of the term.

The framework of the present Trade Commissioner Service emerged during the next decade or so, the Commercial Agents gradually giving place to career Trade Commissioners. From 1911 to 1945 the Commercial Agencies Branch was known as the Commercial Intelligence Service. In mid-1955 a total of 112 Trade Commissioners served at headquarters and abroad in 52 posts. These included Assistant Trade Commissioners and agricultural, fisheries and timber specialists. Where Trade Commissioners are members of a mission maintained by the Department of External Affairs they hold diplomatic status and are known as Commercial Counsellors or Commercial Secretaries.

The Department was expanded after the Second World War to provide a wider range of services to Canadian businessmen. It now comprises: the Canadian Trade Commissioner Service, Commodities Branch (including the Transportation and Trade Services Division), Agriculture and Fisheries Branch, International Trade Relations Branch, Information Branch, Industrial Development Branch, Economics Branch, Standards Branch, International Economic and Technical Cooperation Division and the Canadian Government Exhibition Commission.

The following boards, commissions, Crown companies and agencies report to Parliament through the Minister of Trade and Commerce—six of them through his capacity as Chairman of the Privy Council Committee on Scientific and Industrial Research: Board of Grain Commissioners, Canadian Wheat Board, Dominion Bureau of Statistics, Export Credits Insurance Corporation, Trans-Canada Air Lines, Atomic Energy Control Board, Atomic Energy of Canada Limited, Canadian Patents and Development Limited, National Research Council, Eldorado Mining and Refining Company Limited, Eldorado Aviation Limited and Northern Transportation Limited.

Department of Transport.—The Department was created on Nov. 2, 1936 from the former Department of Marine, Railways and Canals and the Civil Aviation Branch of the Department of National Defence (R.S.C. 1952, c. 79).

The work of the Department consists of four main Services: Marine, Air, Canals and Railways. The work of the Marine Service includes aids to navigation, nautical and pilotage services, marine agencies, steamship inspection and floating equipment and direct supervision over 300 public harbours; seven other harbours come under supervision of the Department but are administered by Commissions. Air Services cover the operation of civil aviation, meteorological and telecommunication divisions. The latter includes the administration and regulation of radar, radio marine and radio aeronautical aids to navigation and communication by wire and by government telegraph and telephone. The Canal Service has jurisdiction over the canals and canalized waterways of Canada. These include the main or primary canals on the St. Lawrence River and Great Lakes and a number of subsidiary or secondary canals.

Other services of the Department are in connection with the Government owned companies: the Canadian National Railways, Hudson Bay Railway, Canadian Government Railway, Canadian National (West Indies) Steamship Service and the Prince Edward Island Ferry and Terminals.

The Minister of Transport is responsible to Parliament for the following boards and commissions: the Air Transport Board; Board of Transport Commissioners; Canadian Maritime Commission; Steamship Inspection Board; National Harbours Board; Park Steamship Company Limited; Canadian National Railway Securities Trust; and the St. Lawrence Seaway Authority. The Minister is also responsible to Parliament for the Canadian Overseas Telecommunication Corporation.

Department of Veterans Affairs.—This Department, established in 1944 (R.S.C. 1952, c. 80), is concerned exclusively with the welfare of veterans and includes medical, dental and welfare services, land settlement and prosthetic services and insurance. The Veterans' Bureau assists veterans in the preparation and presentation of pension claims.

The Minister of Veterans Affairs is also responsible for the Canadian Pension Commission and the War Veterans Allowance Board. The Department has administrative offices in all the larger cities across Canada and at London, England.

Section 2.—Crown Corporations

The Crown corporation form of public enterprise is not a new type of organization in Canada but in recent years, as the work of government has become more complex, greater reliance has been placed on it as the appropriate instrument for administering and managing many public services in which business enterprise and public accountability must be combined.

The use of the corporate device to harmonize public responsibility in the development of economic resources and the provision of public services with the pursuit of commercial and industrial objectives has led to the adoption of many different forms and formulas of management. The most usual practice has been to set up a corporation under the provisions of a special Act of Parliament which defines its purpose and sets forth its powers and responsibilities. However during World War II the Minister of Munitions and Supply was authorized to procure the incorporation of companies under the federal Companies Act, 1934 or under any provincial companies Act to which he might delegate any of the powers conferred on him under the Department of Munitions and Supply Act or any Order in Council. Under this legislation about 28 companies were created to serve a wide variety of purposes; most of these companies have since been wound up.

Following the successful experience during the war years in relying on the Companies Act for the establishment of Crown companies, similar incorporating powers were granted by an amendment to the Research Council Act and have been incorporated in the Atomic Energy Control and the Defence Production Acts.

In 1946 the Government Companies Operation Act was passed to regulate the operation of companies formed under the Companies Act. However it was applicable only to a relatively small number of companies and, in order to establish a more uniform system of financial and budgetary control and of accounting, auditing and reporting for Crown corporations generally, Part VIII of the Financial Administration Act was enacted in 1951 and brought into operation by proclamation on Oct. 1, 1952. Upon its enactment the financial provisions of the Government Companies Operation Act, which were covered by similar provisions in the new Act, were repealed.

One of the more interesting features of the new legislation is the attempt that has been made to define and classify Crown corporations.* The Act defines a Crown corporation as a corporation that is ultimately accountable, through a Minister, to Parliament for the conduct of its affairs and establishes three classes of corporation: departmental, agency, and proprietary.

Departmental Corporations.—A departmental corporation is defined as a Crown corporation that is a servant or agent of Her Majesty in right of Canada and is responsible for administrative, supervisory or regulatory services of a governmental nature. Ten departmental corporations are listed in Schedule B to the Act:—

- Agricultural Prices Support Board
- Atomic Energy Control Board
- Canadian Maritime Commission
- Director of Soldier Settlement
- The Director, The Veterans' Land Act
- Dominion Coal Board
- Fisheries Prices Support Board
- National Gallery of Canada
- National Research Council
- Unemployment Insurance Commission.

Agency Corporations.—An agency corporation is defined as a Crown corporation that is an agent of Her Majesty in right of Canada and is responsible for the management of trading or service operations on a quasi-commercial basis or for the management of procurement, construction or disposal activities on behalf of Her Majesty in right of Canada. The following agency corporations are listed in Schedule C to the Financial Administration Act or have been subsequently added to that Schedule by the Governor in Council:—

- Atomic Energy of Canada Limited
- Canadian Arsenals Limited
- Canadian Commercial Corporation
- Canadian Patents and Development Limited
- Crown Assets Disposal Corporation
- Defence Construction (1951) Limited
- Federal District Commission
- National Battlefields Commission
- Northwest Territories Power Commission
- National Harbours Board
- Park Steamship Company Limited.

Two corporations, Canadian Sugar Stabilization Corporation Ltd. and Commodity Prices Stabilization Corporation Ltd., listed in Schedule C when the Financial Administration Act was proclaimed, have since discontinued operations and surrendered their charters. By an Order in Council of June 15, 1955 the name of the Northwest Territories Power Commission was deleted from Schedule D and added to Schedule C effective Apr. 1, 1954.

Proprietary Corporations.—A proprietary corporation is defined as a Crown corporation that (1) is responsible for the management of lending or financial operations, or for the management of commercial or industrial operations involving the production of or

* Not all Crown corporations are subject to the provisions of the Financial Administration Act. For example, the Canadian Wheat Board, the Bank of Canada and its subsidiary, the Industrial Development Bank, because of the special nature of their functions, are excluded from operations of the Crown Corporations Part of the Act and are governed by their own Acts of incorporation, as are such joint enterprises of the Federal and Provincial Governments as the Eastern Rockies Forest Conservation Board and the Halifax Relief Commission. Though not included in the Schedules to the Financial Administration Act, certain provisions of the Act apply to the Northern Ontario Pipe Line Crown Corporation, set up on June 7, 1956, to oversee the building of a cross-country natural gas pipeline.

dealing in goods and the supplying of services to the public, and (2) is ordinarily required to conduct its operations without Parliamentary appropriations. The following proprietary corporations are listed in Schedule D to the Act or have been subsequently added to that Schedule by the Governor in Council:—

Canadian Broadcasting Corporation
 Canadian Farm Loan Board
 Canadian National (West Indies) Steamships Limited
 Canadian Overseas Telecommunication Corporation
 Central Mortgage and Housing Corporation
 Eldorado Aviation Limited
 Eldorado Mining and Refining Limited
 Export Credits Insurance Corporation
 National Railways, as defined in the Canadian National-Canadian Pacific Act, 1933
 Northern Transportation Company Limited
 Polymer Corporation Limited
 The St. Lawrence Seaway Authority
 Trans-Canada Air Lines.

Departmental corporations are governed by the provisions of the Financial Administration Act that are applicable to departments generally. Agency and proprietary corporations however are subject to the provisions of the Crown corporations Part of the Act although, if there is any inconsistency between the provisions of that Part and those of any other Act applicable to a corporation, the Act provides that the latter prevail. There is provision in the Part for the control and regulation of such matters as corporation budgets and bank accounts, the turning over to the Receiver General of surplus money, limited loans for working-capital purposes, the awarding of contracts and the establishment of reserves, the keeping and auditing of accounts, and the preparation of financial statements and reports and their submission to Parliament through the appropriate Minister.

A further form of control is exercised by Parliament through the power to vote financial assistance. This may take different forms. For some corporations, capital may be provided by parliamentary grants, loans or advances that may subsequently be converted into capital stock or bonds; for others it may be by the issue of capital stock to be subscribed and paid for by the Government; or by the sale of bonds either to the Government or the public. A few corporations have financed all or a portion of their requirements from their own resources or earnings. A special financing arrangement recently adopted has been the allocation of the 15 p.c. excise tax charged on radio and television sets and their parts and accessories to the revenue of the Canadian Broadcasting Corporation.

Prior to 1952 Crown corporations did not pay corporate income taxes. However the Income Tax Act was later amended so that in respect of financial years commencing after Jan. 1, 1952 proprietary Crown corporations pay such taxes on income earned in the same manner as any privately owned corporation. One desirable result of this amendment is that the financial statements of these Crown companies are now more comparable with those of private industry, with which in some instances they are in competition, and thus it is easier to assess the relative efficiency of their operations.

The functions of the various Crown corporations are given briefly in the following paragraphs. For a number of them further details are included in the Chapters dealing with the subjects concerned (*see* Index).

Agricultural Prices Support Board.—The Board was established in 1944 (R.S.C. 1952, c. 3) to assist in stabilizing the prices of agricultural products. The Board reports to Parliament through the Minister of Agriculture.

Atomic Energy Control Board.—In December 1946, by Act of Parliament (R.S.C. 1952, c. 11), the regulation and control of atomic energy in Canada were placed under the Atomic Energy Control Board. The Board reports to Parliament through the Chairman of the Committee of the Privy Council on Scientific and Industrial Research.

Atomic Energy of Canada Limited.—This Crown company was incorporated in February 1952 under the Atomic Energy Control Act, 1946 (R.S.C. 1952, c. 11) to take over from the National Research Council on Apr. 1, 1952 the operation of the Chalk River project. The main functions of the company are the operation of atomic reactors, research into many aspects of atomic energy and the extraction, processing and marketing of the byproducts of the reactors. The company reports to Parliament through the Chairman of the Committee of the Privy Council on Scientific and Industrial Research.

Bank of Canada.—Legislation of 1934 (R.S.C. 1952, c. 13) provided for the establishment of a central bank in Canada, the function of which is to regulate credit and currency, to control and protect the external value of the Canadian dollar and to stabilize the level of production, trade, prices and employment so far as may be possible within the scope of monetary action. The Bank acts as the fiscal agent of the Government of Canada, manages the public debt and has the sole right to issue notes for circulation in Canada. The Bank is managed by a Board of Directors appointed by the Government and composed of a Governor, a Deputy Governor and 12 Directors; the Deputy Minister of Finance is also a member of the Board. The Bank reports to Parliament through the Minister of Finance and is governed by its own Act of incorporation. (See footnote, p. 114.)

Board of Grain Commissioners.—Constituted in 1912 under the Canada Grain Act, 1912—now Canada Grain Act, 1930 (R.S.C. 1952, c. 25)—the Board of Grain Commissioners provides general supervision over grain handling in Canada, by licensing elevator operators, inspecting and weighing grain en route to and shipped from terminal elevators, and other services. The Board, comprising a Chief Commissioner and two Commissioners, has authority to inquire into any matter relating to the grading and weighing of grain, deductions for dockage or shrinkage, deterioration of any grain during storage or treatment, unfair or discriminatory operation of a grain elevator, etc. The Board publishes its regulations in the *Canada Gazette* and reports to Parliament through the Minister of Trade and Commerce.

Canadian Arsenals Limited.—This Company was established under the Companies Act by Letters Patent dated Sept. 20, 1945 and is subject to the Government Companies Operation Act (R.S.C. 1952, c. 133) and certain provisions of the Financial Administration Act (R.S.C. 1952, c. 116). The Company was set up to take over and operate Crown owned plant and equipment. Among the items it now manufactures are propellants and explosives, small arms, radars and a wide range of ammunition and components.

Its Divisions, together with the location of their plants, are as follows: Dominion Arsenal Division (Quebec, Val Rose and Rivière-du-Loup, Que.); Explosives Division (Valleyfield, Que.); Filling Division (St. Paul L'Ermite, Que.); Gun Ammunition Division (Lindsay, Ont.); Small Arms Division (Long Branch, Ont.); Instrument and Radar Division (Scarborough, Ont.). The Company is responsible to Parliament through the Minister of Defence Production.

Canadian Broadcasting Corporation.—Legislation passed in 1936 (R.S.C. 1952, c. 32) provides that there shall be a corporation, to be known as the Canadian Broadcasting Corporation, to consist of a Board of 11 Governors appointed by the Governor in Council and chosen to give representation to the principal geographic divisions of Canada. The Board of Governors determines CBC policy and the Chairman of the Board is required to devote the whole of his time to the performance of his duties under the Act.

The General Manager is the Chief Executive of the Corporation and directs the operations and activities of the Corporation as well as the application of CBC policy as determined by the Board of Governors. The organization of the CBC consists of the following principal Divisions: Program, International Service, Engineering, Commercial, Press and Information, Broadcast Regulations, Station Relations, Personnel and Administration, and Treasury. Regional Directors are appointed for Newfoundland, the Maritimes, Quebec, Ontario, the Prairies and British Columbia.

The Corporation reports to a Minister of the Crown (at present the Minister of National Revenue) who is responsible for dealing with CBC operations when these are under consideration in Parliament.

Canadian Commercial Corporation.—This Corporation was established on May 1, 1946 by the Canadian Commercial Corporation Act (R.S.C. 1952, c. 35). It purchases goods and commodities in Canada for the governments of other countries. It also acts as purchasing agent for international agencies such as the United Nations International Children's Emergency Fund and the United Nations Korean Reconstruction Agency. Other functions include arranging production and shipment of Canadian contributions of military stores to NATO countries. The Corporation also serves other departments of the Government of Canada. For instance it arranges for the purchase and production of supplies and services which the Department of Trade and Commerce is making available to other countries under the Colombo Plan. In carrying out its functions the Corporation works closely with the Department of Defence Production. It is responsible to Parliament through the Minister of Defence Production.

Canadian Farm Loan Board.—The Board was organized in 1929 to make loans to farmers secured by mortgage. The Board is responsible to Parliament through the Minister of Finance.

Canadian Government Specifications Board.—This is a co-operative body in which Government and industry participate on a voluntary basis. It was formed June 13, 1934 as the Canadian Government Purchasing Standards Committee, under the auspices of the National Research

Council. It undertakes the preparation of specifications in commodity fields and for materials, processes and equipment in which government departments and agencies may be interested and arranges for testing and research work.

Canadian Maritime Commission.—The Commission was created in 1947 (R.S.C. 1952, c. 38) to consider and recommend policies and measures necessary for the operation, maintenance, manning and development of a merchant marine and a ship building and ship repairing industry. The Commission is responsible to Parliament through the Minister of Transport. (See also Park Steamship Company Limited, p. 120.)

Canadian National Railways.—Operating under an Act to incorporate the Canadian National Railway Company (1919), brought into effect by Order in Council of Jan. 30, 1923, the Canadian National Railways comprised at that time the old Intercolonial Railway and various eastern branch lines (all embraced in the Canadian Government Railways which were turned over to the Canadian National Board for management and operation), the Canadian Northern Railway (1918) and the Grand Trunk Pacific (1923). The Hudson Bay Railway has been operated by the Canadian National Railways for the Canadian Government since 1935 and a separate accounting is made. Additional lines have been built or acquired and are operated by the Canadian National Railways. The Newfoundland Railway was entrusted to the Canadian National Railway Company in 1949 for operation and management. The CNR is controlled by a Chairman and Board of Directors and is responsible to Parliament through the Minister of Transport.

Canadian National (West Indies) Steamships Limited.—Through the medium of this Crown company, the Federal Government provides direct steamship services to the West Indies in conformity with the Canada-West Indies Trade Agreement of 1926. The Company is responsible to Parliament through the Minister of Transport.

Canadian Overseas Telecommunication Corporation.—This Crown company was created on Dec. 10, 1949 by Act of Parliament (R.S.C. 1952, c. 42) to acquire for public operation all external telecommunication assets in Canada, in keeping with the Commonwealth Telegraph Agreement, signed May 11, 1948. This Agreement was designed to bring about the consolidation and strengthening of the radio and cable communication systems of the Commonwealth. The Corporation is responsible to Parliament through the Minister of Transport.

Canadian Patents and Development Limited.—Incorporated under an amendment to the Research Council Act passed in 1946, the primary purpose of Canadian Patents and Development Limited is to endeavour to interest industry, through licensing arrangements, in the inventions and new processes developed by the scientific workers of the National Research Council. Their services are equally available to other Government Departments, publicly supported institutions and universities. The Board of Directors is composed of representatives from industry, the universities, Government Departments, and the National Research Council. The Corporation reports to Parliament through the Minister of Trade and Commerce.

Canadian Wheat Board.—The Board was incorporated under the Canadian Wheat Board Act to market, in an orderly manner, in the interprovincial and export trade, grain grown in Canada. Its powers include authority to buy, take delivery of, store, transfer, sell, ship or otherwise dispose of grain. Except as directed by the Governor in Council, the Board cannot buy grain other than wheat, but since Aug. 1, 1949 the Board has been directed to buy oats and barley also. Only grain produced in the designated area, which includes Manitoba, Saskatchewan, Alberta and parts of British Columbia and Ontario, is purchased by the Board, which controls the delivery of grain into elevators and railway cars in that area as well as the interprovincial movement and export of wheat, oats and barley generally. The Board is governed by its own Act of incorporation. (See footnote, p. 114.) It reports to Parliament through the Minister of Trade and Commerce.

Central Mortgage and Housing Corporation.—This Corporation was incorporated by Act of Parliament (R.S.C. 1952, c. 46) in December 1945 to administer the National Housing Acts. Under the National Housing Act, 1954 (2-3 Elizabeth II, c. 23), the Corporation insures mortgage loans made by approved lenders for home ownership and rental housing, makes direct loans, provides home improvement and rental guarantees, undertakes jointly with provincial governments the assembly of land and the construction of housing projects, conducts housing research, co-ordinates community planning and owns and manages rental housing units built for war workers and veterans. The Corporation also arranges for and supervises the construction of housing projects on behalf of the Department of National Defence. The Corporation is responsible to Parliament through the Minister of Public Works.

Crown Assets Disposal Corporation.—This Corporation is established under the Surplus Crown Assets Act (R.S.C. 1952, c. 260) and is subject to the Financial Administration Act (R.S.C. 1952, c. 116). In June 1944 War Assets Corporation was established by statute to replace War Assets Corporation Limited which had been incorporated in 1943. In 1949 the name of War Assets Corporation was changed to Crown Assets Disposal Corporation. The Corporation's function is to dispose of surplus Crown assets. It is responsible to Parliament through the Minister of Defence Production.

Defence Construction (1951) Limited.—This Company was established by Letters Patent in 1951 to take over the general undertakings of Defence Construction Limited. It took over all the assets and assumed all the liabilities of the former Company. The Company carries out all defence construction with the exception of houses and aeroplane runways and reports to Parliament through the Minister of Defence Production.

Director of Soldier Settlement and Director of the Veterans' Land Act.—The Director of Soldier Settlement (under the Act of 1919) is also the Director of the Veterans' Land Act, and in either capacity is legally a corporation sole. For administrative purposes however the programs carried on under both Acts constitute integral parts of the services provided by the Department of Veterans Affairs.

Dominion Coal Board.—The Board, created in 1947 under the Dominion Coal Board Act (R.S.C. 1952, c. 86), is charged with the duty of studying and recommending to the Government policies respecting the production, importation, distribution and use of coal in Canada. It also administers transportation subventions, other subsidies relating to coal and loans authorized under the Maritime Coal Production Assistance Act (R.S.C. 1952, c. 170). The Board reports to Parliament through the Minister of Mines and Technical Surveys.

Eastern Rockies Forest Conservation Board.—The Board was appointed in 1947 under the Eastern Rocky Mountain Forest Conservation Act which authorized an agreement between the Government of Canada and the Province of Alberta relating to the protection and conservation of the forests of that area of the eastern slope of the Rocky Mountains which forms part of the watershed of the Saskatchewan River. The function of the Board is to plan, supervise and undertake construction, operation and maintenance of projects and facilities necessary for the proper protection of the forests of the area to obtain the greatest possible flow of water in the Saskatchewan River and its tributaries.

During the first seven years of the agreement the Federal Government undertook to provide \$6,300,000 for capital expenditure and Alberta to provide funds for maintenance expenditures. During the period of capital expenditure the Federal Government agreed to appoint the Chairman and one member and the Province one member. After the capital period the arrangement was that the Federal Government appoint one member and that the Government of Alberta appoint two members and name one of the three as Chairman. This latter arrangement became effective on Apr. 1, 1955 when the capital period expired as a result of an amendment to the Act dated July 1952. Consequently the Province of Alberta is now responsible for all future capital and maintenance costs of this area. Under the new arrangement the Province selected the federal member as Chairman, supported by two provincial members. The Board reports to Parliament through the Minister of Northern Affairs and National Resources. (See footnote, p. 114.)

Eldorado Aviation Limited.—Incorporated Apr. 23, 1953 to carry air traffic, both passenger and freight, for Eldorado Mining and Refining Limited and its wholly owned subsidiary, Northern Transportation Company Limited, the Company reports to Parliament through the Chairman of the Committee of the Privy Council on Scientific and Industrial Research.

Eldorado Mining and Refining Limited.—Set up in 1944 under the name of Eldorado Mining and Refining (1944) Limited (the date was omitted from the name in June 1952), the Company's business is that of prospecting for, mining and refining uranium ores in Canada. It reports to Parliament through the Chairman of the Committee of the Privy Council on Scientific and Industrial Research.

Export Credits Insurance Corporation.—This Company commenced operations in 1945 under the Exports Credits Insurance Act, 1944 (R.S.C. 1952, c. 105) and is administered by a Board of Directors (including the Deputy Minister of Trade and Commerce, the Deputy Minister of Finance and the Governor of the Bank of Canada) with the advice of an Advisory Council. Its function is to insure Canadian exporters against non-payment by foreign buyers arising out of credit and political risks involved in foreign trade. The Corporation reports to Parliament through the Minister of Trade and Commerce.

Federal District Commission.—This Commission had its genesis in the Ottawa Improvement Commission, established by Parliament in 1899 to improve and beautify the National Capital by the development and construction of parks and driveways and to co-operate with the City of Ottawa in local improvement and conservation. Its membership is honorary in character and is appointed by the Governor in Council, and it reports to the Prime Minister. In 1927 the organization's name was changed to the Federal District Commission, its scope of operations widened to include adjacent areas, and its membership increased to ten. Under the FDC Act, one representative each of the cities of Ottawa and Hull (usually the mayor) is included in its membership.

The Commission maintains the grounds of all federal buildings in the National Capital area and landscapes the grounds of new government buildings. In the Ottawa-Hull area (exclusive of Gatineau Park), the Commission has developed over 3,000 acres of urban parks and 22 miles of scenic driveways.

In 1946 the Commission became the federal agency responsible for carrying out the National Capital Plan. Commission approval is required for the location, siting and exterior design of new federal buildings or for alterations to existing structures. The membership was further increased to permit the appointment of a commissioner resident in each of the provinces and a separate honorary committee was established by the Commission to advise on the development of Gatineau Park. The National Capital Fund, to which Parliament has made annual grants of \$2,500,000 since its inception in 1948, was made available to the Commission to execute the work of the National Capital Plan and a National Capital Planning Committee was appointed to act as a permanent honorary advisory body to the Commission on the implementation of the Plan.

Fisheries Prices Support Board.—The Board was set up in July 1947 (R.S.C. 1952, c. 120) to recommend to the Government price support measures when severe price declines occur. The Board functions under the direction of the Minister of Fisheries and consists of an Acting Chairman, who is a senior officer of the Department of Fisheries, and five members chosen from private and co-operative firms in the industry. The Board has authority to buy fishery products and to sell or otherwise dispose of them or to pay producers the difference between a price prescribed by the Board and the average price the product actually commands.

Halifax Relief Commission.—The Commission, a joint enterprise of the Legislature of Nova Scotia (Statutes of N.S., 1918, c. 61) and the Parliament of Canada (Statutes of Canada, 1918, c. 24), was incorporated to administer relief funds contributed for the assistance of sufferers in consequence of the disastrous explosion at Halifax, Dec. 17, 1917. (See footnote, p. 114.)

Industrial Development Bank.—The Bank, a subsidiary of the Bank of Canada, was incorporated in 1944 to provide loans to industrial enterprises where financing is not available through recognized lending organizations. (See footnote, p. 114.)

International Joint Commission.—This Commission was established under a joint Canada-United States treaty, Jan. 11, 1909, ratified by Canada in 1911. The Commission, composed of six members (three appointed by the President of the United States and three by the Canadian Cabinet) is governed by five specific Articles of the Boundary Waters Treaty of 1909 which include the right of approval of all matters affecting the natural level or flow of boundary waters on either side of the International Boundary and the power to pass on all applications for works contemplated in waters flowing from or in boundary waters which would raise the natural level.

Problems arising from the common frontier are also referred to the Commission by either country for examination and report; in such cases, the Commission's decisions are in the nature of recommendations. The International Joint Commission has however judicial powers, and can render decisions on problems or questions of difference between the two countries providing both consent to be bound by its judgments. These problems need not be connected with the common frontier. The Commission reports to Parliament through the Secretary of State for External Affairs.

National Battlefields Commission.—This Commission was established by Act of Parliament in 1908 to preserve the historic battlefields at Quebec City. The Commission is composed of nine members, seven being appointed by the Federal Government and one each by the Provinces of Ontario and Quebec. The Commission is supported by an annual statutory grant from the Federal Government and is responsible to Parliament through the Minister of Northern Affairs and National Resources.

National Film Board.—The National Film Board was established in 1939 and the National Film Act (R.S.C. 1952, c. 185) provides for a Board of Governors of nine members—a Government Film Commissioner, appointed by the Governor in Council, who is Chairman of the Board, three members from the public service of Canada and five members from outside the public service. The Board reports to Parliament through a designated Minister of the Crown (at present the Minister of Citizenship and Immigration). The Board is responsible for advising the Governor in Council on film activities and is authorized to produce and distribute films in the national interest and in particular films "designed to interpret Canada to Canadians and to other nations".

National Gallery.—The National Gallery was founded in 1880. By Act of Parliament in 1913 and re-enacted in 1951 it was placed under the management of a Board of Trustees appointed by the Governor General in Council and now operates under the National Gallery Act (R.S.C. 1952, c. 186). It is responsible to Parliament through a Minister of the Crown (at present the Minister of Citizenship and Immigration).

The first charge of the National Gallery is the development and care of the national art collections. Other important services are the arrangement of loans and exhibitions from abroad and from its own holdings for showing in Canada and abroad, the promotion of good industrial design and general extension work consisting of the distribution of reproductions for educational purposes, lectures, educational tours, publications, school broadcasts and art films.

National Harbours Board.—The Board was established by Act of Parliament in 1936. It is responsible for the administration of port facilities at the harbours of Halifax, Saint John, Chicoutimi, Quebec, Three Rivers, Montreal, Vancouver, and Churchill. The Board is responsible to Parliament through the Minister of Transport.

National Research Council.—In 1917 the Research Council Act was passed and in 1928 laboratories for scientific research were established at Ottawa. The National Research Council now has Divisions of Pure and Applied Chemistry, Building Research, Mechanical Engineering, Radio and Electrical Engineering, Pure and Applied Physics, Applied Biology and Medical Research. Regional laboratories have been established at Saskatoon, Sask., and Halifax, N.S.

Patentable processes and improvements developed by the Council are made available under licence to industry through a Crown company, Canadian Patents and Development Limited, and any profits from the licensing arrangements are used for further research and development.

The Minister of Trade and Commerce as Chairman of the Privy Council Committee on Scientific and Industrial Research is responsible to Parliament for the National Research Council.

Northern Transportation Company Limited.—This Company was incorporated in 1947 under the title of Northern Transportation Company (1947) Limited, the date being omitted from the name in 1952. Previously a company chartered under an Alberta Statute, it has been a wholly owned subsidiary of Eldorado Mining and Refining Limited since that Crown company was established and carries out the business of a common carrier in the Mackenzie River watershed. The Company is responsible to Parliament through the Chairman of the Committee of the Privy Council on Scientific and Industrial Research.

Northwest Territories Power Commission.—The Commission was established by Act of Parliament in 1948 to bring electric power to points in the Northwest Territories where a need developed and where power could be provided on a self sustaining basis. The Act was amended in 1950 to give authority to the Commission to provide similar services in the Yukon Territory. The Commission is composed of a Chairman and two members appointed by the Governor in Council; it operates hydroelectric plants on the Snare River in the Northwest Territories and on the Mayo River in Yukon Territory and a diesel electric plant at Fort Smith, N.W.T. The Minister of Northern Affairs and National Resources reports to Parliament for the Commission.

Park Steamship Company Limited.—After World War II this Company acted as an agent for Crown Assets Disposal Corporation in the sale and delivery to purchasers of Government war built ships. This work is completed but the Company remains available to carry out any appropriate duties. It has no staff of its own, any necessary work being done by the staff of the Canadian Maritime Commission (see p. 117). The Company reports to Parliament through the Minister of Transport.

Polymer Corporation Limited.—This Corporation was established in 1942 by Letters Patent under the Companies Act and is subject to the Companies Operation Act (R.S.C. 1952, c. 133) and the Financial Administration Act (R.S.C. 1952, c. 116). It was set up to construct and operate a synthetic rubber plant which now produces a variety of synthetic rubber products. The plant is located at Sarnia, Ont. The Corporation reports to Parliament through the Minister of Defence Production.

St. Lawrence Seaway Authority.—The St. Lawrence Seaway Authority was established by Act of Parliament in 1951 (R.S.C. 1952, c. 242) and came into force by proclamation on July 1, 1954. The Authority is incorporated for the purposes of constructing, maintaining and operating all such works as may be necessary to provide and maintain, either wholly in Canada or in conjunction with works undertaken by an appropriate authority in the United States, a deep waterway between the Port of Montreal and Lake Erie. The Authority is composed of a President, a Vice-President and a Member and reports to Parliament through the Minister of Transport.

Trans-Canada Air Lines.—TCA came into being by Act of Parliament in 1937 (R.S.C. 1952, c. 268) to provide for the development of a government-controlled scheduled transcontinental air service. Transatlantic air services which were inaugurated by the Department of Transport during World War II were later turned over to TCA. TCA now maintains passenger, mail and commodity traffic services over nationwide routes and also services to the United States, Mexico, England, Scotland, Ireland, France, West Germany, Bermuda, the Bahamas, Jamaica, Barbados and Trinidad. TCA is responsible to Parliament through the Minister of Trade and Commerce.

Unemployment Insurance Commission.—The Commission was appointed on Sept. 24, 1940 under the provisions of the Unemployment Insurance Act, 1940 (R.S.C. 1952, c. 273) for the purpose of administering the Act and providing a national employment service. It is composed of three Commissioners—a Chief Commissioner, a Commissioner appointed after consultation with organizations representative of workers, and another after consultation with organizations representative of employers. The Chief Commissioner holds office for ten and each of the other Commissioners for five years. The Commission is responsible to Parliament through the Minister of Labour.

Section 3.—Acts Administered by Federal Departments*

List of the Principal Acts of Parliament Administered by Departments of the Government of Canada

NOTE.—Copies of individual Acts of Parliament and amendments may be obtained from the Queen's Printer, Ottawa at prices of from 10 cents to \$1.50 per copy according to number of pages. Where duplications of certain Acts appear in the list, parts of these Acts are administered under the Departments given.

Department, Year and Chapter of Statute	Name of Act	Department, Year and Chapter of Statute	Name of Act
Agriculture— R.S.C. 1927 36	Criminal Code, Sect. 235, Race Track Betting	Defence Production— R.S.C. 1952 35	Canadian Commercial Corporation
R.S.C. 1952 3	Agricultural Prices Support	62	Defence Production
4	Agricultural Products Board	260	Surplus Crown Assets
5	Agricultural Products Co-operative Marketing	External Affairs—	
6	Agricultural Products Marketing	1911 28	Respecting the International Boundary Waters Treaty and the existence of the International Joint Commission (amended 1914 c. 5, and 1922 c. 43).
9	Animal Contagious Diseases	1947-48 71	Carrying into effect the Treaties of Peace between Canada and Italy, Roumania, Hungary and Finland
22, 305	Canada Dairy Products	R.S.C. 1952 50	Carrying into effect the Treaty of Peace between Canada and Japan
47	Cheese and Cheese Factory Improvement	68	Department of External Affairs
52, 313	Cold Storage	122	Food and Agriculture Organization of the United Nations
66	Department of Agriculture	142	High Commissioner of the United Kingdom
81	Destructive Insect and Pest	219	Privileges and Immunities (United Nations)
101	Experimental Farm Stations	275	United Nations
113	Feeding Stuffs		
115	Fertilizers		
126	Fruit, Vegetables and Honey		
141	Hay and Straw Inspection		
155	Inspection and Sale		
167	Live Stock and Live Stock Products		
168	Live Stock Pedigree		
172	Maple Products Industry		
175	Maritime Marshland Rehabilitation		
177	Meat and Canned Foods		
180	Milk Test		
209	Pest Control Products		
213	Prairie Farm Assistance		
214	Prairie Farm Rehabilitation		
248	Seeds		
294	Wheat Co-operative Marketing		
1953-54 51	Criminal Code, Sect. 178, Race Track Betting	1951 20	Appropriation (Annual) Canadian National Railways Financing and Guarantee (Annual) Prairie Grain Producers Interim Financing
		46	Canadian National Railways Refunding
		1952 49	Dominion—Provincial Tax Rental Agreements
Auditor General— R.S.C. 1952 116	Financial Administration	R.S.C. 1952 12	Bank
		13	Bank of Canada
		15	Bills of Exchange
		36, 309	Canadian Farm Loan
		37	Canadian Fisherman's Loan
		110	Farm Improvement Loans
		116	Financial Administration
		131	Gold Export
		151, 326	Industrial Development Bank
		156	Interest
		182	Municipal Grants
		183	Municipal Improvements Assistance
		204	Pawnbrokers
		221	Provincial Subsidies
		232	Quebec Savings Banks
		245	Satisfied Securities
		261, 336	Tariff Board
		296	Winding-up
		315	Currency, Mint and Exchange Fund
		1952-53 47	Public Service Superannuation
Citizenship and Immigration— 1927 37	St. Regis Indian Reservation		
1934 29	Caughnawaga Indian Reserve		
1943 19	British Columbia Indian Reserves		
	Mineral Resources		
R.S.C. 1952 33	Canadian Citizenship		
67	Department of Citizenship and Immigration		
146	Immigration Aid Societies		
149	Indian		
185	National Film Act		
186	National Gallery		
325	Immigration		
Civil Service Commission— R.S.C. 1952 48	Civil Service		

* Compiled from information supplied by the respective Departments.

List of the Principal Acts of Parliament Administered by Departments of the Government of Canada—continued

Department, Year and Chapter of Statute	Name of Act	Department, Year and Chapter of Statute	Name of Act
Fisheries—		Labour—	
R.S.C. 1952	61 Deep Sea Fisheries	R.S.C. 1952	72 Department of Labour
	69 Department of Fisheries		108 Fair Wages and Hours of Labour
	118 Fish Inspection		132 Government Annuities
	119 Fisheries		134 Government Employees Compensation
	120 Fisheries Prices Support		152 Industrial Relations and Disputes
	121 Fisheries Research Board		178 Investigation
	177 Meat and Canned Foods		236 Merchant Seamen Compensation
	194 Northern Pacific Halibut Fishery (Convention)		236 Reinstatement in Civil Employment
	205 Pelagic Sealing (Provisional Agreement)	273, 337	Unemployment Insurance
	244 Salt Fish Board		286 Vocational Training Co-ordination
	252 Sockeye Salmon Fisheries (Convention)		295 White Phosphorous Matches
	293 Whaling Convention	1952-53	19 Canada Fair Employment Practices
1952-53	15 Coastal Fisheries Protection		
	44 North Pacific Fisheries Convention		
1953-54	18 Northwest Atlantic Fisheries Convention		
Insurance—		Mines and Technical Surveys—	
R.S.C. 1952	31 Canadian and British Insurance Companies	R.S.C. 1952	26 Canada Lands Surveys
	49 Civil Service Insurance		73 Department of Mines and Technical Surveys
	70 Department of Insurance		95, 318 Emergency Gold Mining Assistance
100, 320	Excise Tax		102 Explosives
	125 Foreign Insurance Companies		
	170 Loan Companies	National Defence—	
	181 Money Lenders	R.S.C. 1952	63 Defence Services Pension
	251 Small Loans		184 National Defence
	272 Trust Companies		283 Visiting Forces (British Commonwealth)
	296 Winding-up		284 Visiting Forces (North Atlantic Treaty)
1952-53	28 Co-operative Credit Associations Act		285 Visiting Forces (United States of America)
Justice—		National Health and Welfare—	
1940	43 Treachery	R.S.C. 1952	74 Department of National Health and Welfare
R.S.C. 1952	14 Bankruptcy		
	71 Department of Justice		
	98 Exchequer Court		
	106 Expropriation		
	111 Farmers' Creditors Arrangement	National Health—	
	116 Financial Administration	R.S.C. 1952	29 Canada Shipping (Part V, Sick Mariners and Marine Hospitals)
	127 Fugitive Offenders		123 Food and Drugs
	144 Identification of Criminals		165 Leprosy
	154 Inquiries		201 Opium and Narcotic Drug
	158 Interpretation		220 Proprietary or Patent Medicine
	159 Judges		229 Public Works Health
	160 Juvenile Delinquents		231 Quarantine
	198 Official Secrets		
	206 Penitentiary		
	210 Petition of Right	Welfare—	
217, 333	Prisons and Reformatories	R.S.C. 1952	17 Blind Persons
	241 Royal Canadian Mounted Police		109 Family Allowances
	253 Solicitor General		199 Old Age Assistance
259, 335	Supreme Court		200 Old Age Security
	264 Ticket of Leave	1954	55 Disabled Persons
	299 Yukon Administration of Justice		
	307 Canada Evidence		
	314 Combines Investigation		
	322 Extradition		
1952-53	530 Crown Liability	National Library—	
1953-54	51 Criminal Code	R.S.C. 1952	330 National Library

List of the Principal Acts of Parliament Administered by Departments of the Government of Canada—continued

Department, Year and Chapter of Statute	Name of Act	Department, Year and Chapter of Statute	Name of Act
National Revenue—		National Revenue—	
<i>Taxation—</i>		<i>Administered in</i>	
1940 32	Excess Profits Tax	<i>Part—concl.</i>	
1941 15		R.S.C. 1952—	155 Inspection and Sale
1942 26		concl.	167 Live Stock and Live Stock Products
1943 13			168 Live Stock Pedigree
1944 38			172 Maple Products Industry
1945 19			177 Meat and Canned Foods
1944 21	Canada-U.S. Tax Convention (Income Tax)		201 Opium and Narcotic Drug
1945 31	Canada-U.S. Tax Convention (Succession Duties)		205 Pelagic Sealing
1950 27			209 Pest Control Products
1946 38	Canada-U.K. Income Tax Agree- ment		212 Post Office
39	Canada-U.K. Succession Duty Agreement		215 Precious Metals Marking
1948 34	Canada - N.Z. Income Tax Agree- ment		231 Quarantine
1951 40	Canada - France Income Tax Convention		233 Radio
1952 18			248 Seeds
1951 41	Canada - France Succession Duty Convention		271 Transport
1951 42	Canada - Sweden Income Tax Agreement		292 Weights and Measures
R.S.C. 1952 89	Dominion Succession Duty	1953-54 27	Export and Import Permits
317		51	Criminal Code
R.S.C. 1952 148	Income Tax		
1953 40			
1954 57			
<i>Customs and Excise—</i>			
R.S.C. 1952 58	Customs		
60	Customs Tariff		
75	Department of National Revenue		
99	Excise		
100	Excise Tax		
<i>Administered in Part—</i>			
R.S.C. 1952 2	Aeronautics		
9	Animal Contagious Diseases		
11	Atomic Energy Control		
22	Canada Dairy Products		
29	Canada Shipping Act (Coasting Regulations)		
44	Canadian Wheat Board		
55	Copyright		
59	Customs and Fisheries Protection		
81	Destructive Insect and Pest		
102	Explosives		
103	Export		
113	Feeding Stuffs		
114	Ferries		
115	Fertilizer		
118	Fish Inspection		
119	Fisheries		
123	Food and Drugs		
126	Fruit, Vegetables and Honey		
131	Gold Export		
145	Immigration		
147	Importation of Intoxicating Li- quors		
		Northern Affairs and National Resources—	
		1908 57, 58	National Battlefields at Quebec
		R.S.C. 1927 51	Respecting certain debts due the Crown
		87	Seed Grain
		88	Seed Grain Sureties
		116	Railway Belt
		124	Manitoba Supplementary Provis- ions
		180	Saskatchewan and Alberta Roads
		211	Railway Belt Water
		1928 32	Lac Seul Conservation
		1930 3	Alberta Natural Resources
		29	Manitoba Natural Resources
		37	Railway Belt and Peace River Block
		41	Saskatchewan Natural Resources
		1932 35	Refunds (Natural Resources)
		55	Waterton Glacier International Peace Park
		1939 33	Rainy Lake Watershed Emergency Control
		1947 59	Eastern Rocky Mountain Forest Conservation
		R.S.C. 1952 24	Canada Forestry
		90	Dominion Water Power
		128	Game Export
		162	Land Titles
		179	Migratory Birds Convention
		189	National Parks
		192	National Wild Life Week
		196	Northwest Territories Power Commission
		224	Public Lands Grants
		263	Territorial Lands
		299	Yukon Administration of Justice
		300	Yukon Placer Mining
		301	Yukon Quartz Mining
		331	Northwest Territories
		1952-53 21	Canada Water Conservation As- sistance
		39	Historic Sites and Monuments
		53	Yukon
		1953-54 4	Department of Northern Affairs and National Resources
		1955 47	Construction, Operation and Main- tenance of International River Improvements

List of the Principal Acts of Parliament Administered by Departments of the Government of Canada—continued

Department, Year and Chapter of Statute	Name of Act	Department, Year and Chapter of Statute	Name of Act
Post Office— R.S.C. 1952 212	Post Office	Trade and Commerce— R.S.C. 1952	11 Atomic Energy Control 25 Canada Grain 44 Canadian Wheat Board 64 Defence Supplies 78 Department of Trade and Commerce 92 Electrical and Photometric Units 94 Electricity Inspection 103 Export 105 Export Credits Insurance 129 Gas Inspection 140 Grain Futures 147 Importation of Intoxicating Liquors 153 Inland Water Freight Rates 164 Length and Mass Units 173 Maritime Coal Production Assistance 191 National Trade Mark and True Labelling 215 Precious Metals Marking 239 Research Council 257 Statistics 292 Weights and Measures 1953-54 27 Export and Import Permits 1954 14 Exportation of Power and Fluids and Importation of Gas
Public Archives— R.S.C. 1952 222	Public Archives		
Public Printing and Stationery— R.S.C. 1952 226 230	Public Printing and Stationery Publication of Statutes		
Public Works— 1934 59 1935 34 R.S.C. 1952 91 106 114 135 138 193 216 228 234 269 324	Public Works Construction Public Works Construction Dry Docks Subsidies Expropriation Ferries Government Harbours and Piers Government Works Tolls Navigable Waters Protection, Part I Prime Minister's Residence Public Works Railway Trans-Canada Highway Government Property Traffic	Transport— R.S.C. 1927 29 1929 4 11 12 48 1931 19, 20 40 20 1947 26 42 1948 10 R.S.C. 1952 2, 302 16 20 29 32 38 39 40 42 45 79	Auditors for National Railways (Annual) Canadian National Railways Financing and Guarantee (Annual) Canadian National (West Indies) Steamship Company Railway Belt Water Canadian National Railways Pensions Canadian National Refunding Canadian National Montreal Terminals Northern Alberta Railways Beauharnois Light, Heat and Power New Westminster Harbour Loan Beauharnois Light, Heat and Power Beauharnois Light, Heat and Power Port Alberni Harbour Commissioners New Westminster Harbour Commissioners Refunding Maintenance of Railway Operation Aeronautics Bills of Lading Bridges Canada Shipping Canada Broadcasting Canadian Maritime Commission Canadian National — Canadian Pacific Canadian National Railways Canadian Overseas Telecommunication Corporation Carriage by Air Department of Transport
Secretary of State— R.S.C. 1929 55 1947 24 1948 71 R.S.C. 1952 18 23, 306 30 53 54 55 62 77 83 87 149 195 203 208 223 225 234 235 247 263 265 267 270 295 298 307 1952-53 49	Reparation Payment Trading with the Enemy (Transitional Powers) Italy, Roumania, Hungary and Finland Treaties of Peace Boards of Trade Canada Elections Canada Temperance Companies Companies Creditors Arrangement Copyright Defence Production Department of State Disfranchising Dominion Controverted Elections Indian Northwest Territories Patent Pension Fund Societies Public Documents Public Officers Railway Regulations Seals Territorial Lands Timber Marking Trade Unions Translation Bureau White Phosphorous Matches Yukon Canada Evidence Trade Marks and Unfair Competition		

List of the Principal Acts of Parliament Administered by Departments of the Government of Canada—concluded

Department, Year and Chapter of Statute	Name of Act	Department, Year and Chapter of Statute	Name of Act
Transport—concl.		Veterans Affairs—	
R.S.C. 1952— 135	Government Harbours and Piers	1920 54	Returned Soldiers' Insurance
concl. 136	Government Railways	R.S.C. 1927 188	Soldier Settlement
137	Government Vessels Discipline	1936 47	Veterans' Assistance Commission
153	Inland Water Freight Rates	R.S.C. 1952 8	Allied Veterans Benefits
157	International Rapids Power Development	51, 312	Civilian War Pensions and Allowances
168	Live Stock Shipping	80	Department of Veterans Affairs
174	Maritime Freight Rates	117	Fire Fighters War Service Benefits
187	National Harbours Board	207, 332	Pension
193	Navigable Waters Protection	256	Special Operators War Service Benefits
202	Passenger Tickets	258	Supervisors War Service Benefits
211	Pipe Lines	279, 338	Veterans Insurance
233	Radio	280	Veterans' Land
234	Railway	281	Veterans Rehabilitation
242	St. Lawrence Seaway Authority	289	War Service Grants
262	Telegraphs	297	Women's Royal Naval Services and the South African Military Nursing Service (Benefits)
268	Trans-Canada Air Lines	340	War Veterans Allowance
271	Transport (Board of Transport Commissioners)	1952-53 27	Children of War Dead (Education Assistance)
276	United States Wreckers	1953-54 65	Veterans Benefit
291	Water Carriage of Goods		
311	Canadian National Railways Capital Revision		

PART IV.—FEDERAL GOVERNMENT EMPLOYMENT

The Civil Service Commission.*—The Federal Civil Service comprises, in the widest sense, all servants of the Crown—other than those holding political or judicial office—who are employed in a civil capacity and whose remuneration is paid wholly and directly from moneys voted by Parliament. Collectively they form the staffs of the various departments, commissions, boards, bureaux and other agencies of the Federal Government. Nearly every category of occupation is represented in the Civil Service. A few civil servants are appointed by one or both Houses of Parliament directly, a considerable number by departments and other agencies in accordance with the provisions of certain statutes, generally with executive approval of the Governor in Council, and the remainder—by far the majority—are selected and appointed by the Civil Service Commission of Canada.

The Civil Service Commission as the central personnel agency of the Federal Government is the custodian of the merit principle in respect of both initial appointments and promotions. The steps by which the Commission in its present form came to be constituted is the record of Civil Service reform in Canada which began a year after Confederation and culminated in the passing of the Civil Service Act of 1918.

Recruitment.—The recruitment of civil servants is conducted by means of open competitive examination through which every citizen has the right to compete for positions in the service of his country.

Examinations are held periodically as the staff requirements of the public service dictate. Any Canadian citizen may apply for headquarters positions open at Ottawa but applicants for local positions must be residents of the locality in which the vacancy

* Revised by M. M. Maclean, Secretary of the Civil Service Commission of Canada, Ottawa.

occurs. Competitive examinations are announced through the press and through posters displayed on the public notice boards of post offices, offices of the National Employment Service, offices of the Civil Service Commission, public libraries and elsewhere. The examinations may be written, oral, a demonstration of skill, or any combination of these.

The names of persons successful in Civil Service examinations, arranged in order of rank, are recorded on eligible lists. Examination results are formally announced by publication in the *Canada Gazette* and each candidate—successful or unsuccessful—is advised of his standing. Appointments are made as required from the eligible lists which usually remain valid for one year.

The rank of the various successful candidates on eligible lists is influenced by the 'veteran's preference'. Actually the preference is limited largely, in accordance with its definition by law, to members of the Armed Forces who have served overseas in World War I or II or in the Korean theatre of operations. The highest order of preference is the 'disability preference' accorded to pensioners of the Armed Forces who as a result of their war service are unable to re-establish themselves in a civilian occupation.

In recent years the Civil Service Commission has decentralized its operations and now has ten district offices and five sub-offices across the country. The Commission is granting an increasing measure of autonomy and responsibility to these offices to permit more efficient service to field agencies.

Staff Training.—In 1947 the Commission set up a Staff Training Division to promote and guide a systematic service-wide training scheme. The training scheme, sponsored by the Commission, is a joint venture undertaken in co-operation with Federal Government departments most of which have parallel training divisions. The Commission's Training Division is primarily a co-ordinating agent. It promotes and organizes activities, trains departmental instructors in the presentation of courses, prepares and on occasion gives courses of general application to all departments, publishes booklets and other training aids, assists departments in developing training to meet specialized needs, and acts as a general clearing-house for the exchange of information on training matters.

Promotion.—It is a prime objective of the Civil Service Act to create a career service. The result is that promotion, like entrance to the Service, is based on merit and a sound promotion system is developing. The present procedure involves the consideration of three factors: seniority or length of service; efficiency of candidates in their present positions; and fitness for the vacant positions. An automatic rating on seniority is given by the Commission and ratings on efficiency and fitness are provided by the department concerned. Appeal machinery under Commission jurisdiction has been set up for those employees who feel that their qualifications have not been properly assessed.

Position Classification and Compensation.—Provision is made in the Civil Service Act for the classifying of positions in the public service. A system of position classification was instituted in 1919 and positions with like duties and responsibilities were classified alike and remunerated equally. Each position has a title, a set of tasks or duties which are proper to it in the organization in which it occurs and, arising out of these duties, a set of qualifications appropriate for their performance. Positions with duties of similar kind are grouped together under a common title to form a class and grades within the class reflect the level of responsibility.

The determination of rates of compensation for each class is a continuing responsibility of the Commission and salary and wage surveys are conducted constantly. Position classification is a mainspring in the Commission's primary function of recruitment, involving the fixing of standards of qualification for each class of position.

Organization and Methods.—In recent years there has been an increasing awareness of the extent to which economical administration depends on the adoption of modern management techniques and devices. In 1948 the Commission set up an Organization and Methods Service to study problems of management in collaboration with officials directly responsible for major areas of administration. Briefly this Service affords practical assistance to departments and other agencies of the Government through the systematic examination of structure, operations, procedures and work methods. Its growing facilities are offered free of charge to all departments.

Statistics of Federal Government Employment.*—The basic concept behind the survey of Federal Government employment, started in April 1952, was that it should comprehend all classes of employees (excluding members of the Armed Services but including Force members of the Royal Canadian Mounted Police) for the totality of services at the federal level of government, with separate treatment accorded those activities designated as "government enterprises" because of the economic or proprietary nature of these undertakings; hence the title "Federal Government Employment" in contrast to the title used for the previous survey "Civil Service of Canada" with its restrictions as to services and classes of employees. The guiding principle that has been followed in matters of terminology and presentation of data has been strict adherence, except in dealing with services of relatively minor import, to official usages as employed in the *Canada Estimates* and, in classification of employees, to the official designations "classified", "exempt" and "statutory". Comparison with figures of previous years should be made only after careful consideration of the differences in composition of services and classification of employees. These points are more fully elaborated in the *Explanatory Memorandum*.†

Included in this survey as governmental services are all the administrative functions of the Federal Government (*see pp. 107-113*) and all agencies, boards and commissions where the nature of the undertaking is not of a proprietary or economic character, but where payments of salaries and/or wages are by legislative appropriation from the General Revenue Fund, including two Agency Corporations (Federal District Commission and National Battlefields Commission) and one Proprietary Corporation (Canadian Farm Loan Board). Statutory employees are also included as their salaries are paid from the General Revenue Fund in accordance with the terms of an Act of Parliament establishing the position.

The "classified" group embraces several classes of employees including: those who are subject to the Civil Service Act and Civil Service Superannuation Act; those not subject to these Acts but who are employed under other enabling legislation or regulations; those employees of certain Agency and Proprietary Corporations mentioned above; and the "statutory" group, most of whom are only dismissable by an Address to both Houses of Parliament, such as members of the judiciary. The other main group denominated "exempt" is also a composite of groups of employees (prevailing rate, casual, ships' crews), the chief distinctions of which are that, though paid from revenues passed by legislative appropriation, there is not the same security of tenure, the rates paid are determined by those prevailing in the area of work and the employment of these groups is often seasonal. These classes are subject to the Prevailing Rate Employees' General Regulations approved by the Treasury Board. (*See also Chap. XVIII, Labour.*)

Employment of government "enterprises" is treated separately from that of government "services" because of the economic or proprietary complexion of the former. The supposition in respect of enterprises is that costs of operation, among them salaries and

* Prepared in the Public Finance and Transportation Division, Dominion Bureau of Statistics.

† Special report, available from DBS on request.

wages, are paid from the revenues which the undertaking has derived from the activity in which it is engaged. Consequently there exists no provision for a specific appropriation by Parliament for payment of salaries or wages of employees. In addition to the economic or proprietary consideration another distinguishing characteristic of these activities is provision under the Financial Administration Act (R.S.C. 1952, c. 116) whereby all are ultimately accountable for the conduct of their affairs to Parliament through a Minister. The activities falling in the category "enterprises" are listed as follows:—

Atomic Energy of Canada Limited	Defence Construction Limited
Bank of Canada	Eldorado Mining and Refining Limited
Canadian Arsenals Limited	Export Credits Insurance Corporation
Canadian Broadcasting Corporation	Hudson Bay Railway
Canadian Commercial Corporation	Industrial Development Bank
Canadian National Railways	National Harbours Board
Canadian National (West Indies) Steamships Limited	Northern Transportation Company Limited
Canadian Overseas Telecommunication Corporation	Northwest Territories Power Commission
Canadian Wheat Board	Polymer Corporation Limited
Central Mortgage and Housing Corporation	Prince Edward Island Car Ferry
Crown Assets Disposal Corporation	St. Lawrence Seaway Authority
	Trans-Canada Air Lines

The figures pertaining to this group (Table 4) are published in aggregate only in order to preclude (as required under the Statistics Act) any possibility of disclosure as to the operation of a particular enterprise.

1.—Classified and Exempt Employees of the Federal Government by Month, Years Ended Mar. 31, 1954 and 1955

NOTE.—Includes departments, boards, commissions, etc. listed in Table 3 but excludes certain Federal Government enterprises, figures for which are given in Table 4. Figures for April 1952–March 1953 are given at p. 113 of the 1955 Year Book.

Fiscal Year and Month	Total Classified	Exempt			
		Prevailing Rate	Casual	Ships' Crews	Total Exempt
	No.	No.	No.	No.	No.
1953-54—					
April.....	130,999	22,154	10,912	1,955	35,021
May.....	131,057	23,667	11,731	2,130	37,528
June.....	131,482	23,273	12,726	2,158	38,157
July.....	131,627	25,538	16,004	2,197	43,739
August.....	131,835	23,615	15,178	2,072	40,865
September.....	131,714	23,692	14,955	2,050	40,697
October.....	132,714	23,048	14,212	2,145	39,405
November.....	134,163	21,961	12,807	2,192	36,960
December.....	135,009	22,717	11,654	2,025	36,396
January.....	135,411	22,465	12,358	1,874	36,697
February.....	135,884	22,245	10,861	1,770	34,876
March.....	137,274	20,414	11,077	2,601	34,092
1954-55—					
April.....	138,061	22,390	11,512	2,028	35,930
May.....	139,450	23,640	12,737	2,218	38,595
June.....	140,465	24,995	13,544	2,257	40,796
July.....	139,475	25,808	15,023	2,335	43,166
August.....	139,696	25,636	17,367	2,473	45,476
September.....	140,142	25,383	15,868	2,418	43,669
October.....	140,110	24,714	14,678	2,196	41,588
November.....	140,558	24,003	14,635	2,246	40,884
December.....	141,173	24,275	14,125	2,101	40,501
January.....	141,783	23,656	13,266	1,969	38,891
February.....	142,480	24,188	12,709	1,919	38,816
March.....	143,150	24,231	12,570	1,962	38,763

2.—Earnings of Classified and Exempt Employees of the Federal Government by Month, Years Ended Mar. 31, 1954 and 1955

NOTE.—Includes departments, boards, commissions, etc., listed in Table 3 but excludes certain Federal Government enterprises, figures for which are given in Table 4. Figures for April 1952-March 1953 are given at p. 113 of the 1955 Year Book.

Fiscal Year and Month	Total Classified	Exempt				Additional Overtime Earnings	
		Prevailing Rate	Casual	Ships' Crews	Total Exempt	Classified	Exempt
	\$	\$	\$	\$	\$	\$	\$
1953-54—							
April.....	30,909,319	4,520,126	1,933,437	427,681	6,881,244	8,187	125,923
May.....	30,879,035	4,865,220	2,000,891	480,207	7,346,318	217,767	171,884
June.....	30,950,340	4,610,356	2,183,216	493,170	7,286,742	86,482	378,262
July.....	31,176,008	5,246,002	2,831,831	512,409	8,589,882	227,247	273,878
August.....	31,334,757	4,633,538	2,604,647	478,446	7,716,631	214,301	139,994
September.....	31,320,201	4,874,808	2,701,864	476,811	8,053,483	157,668	207,569
October.....	31,639,217	4,781,767	2,634,110	508,400	7,924,277	225,816	266,304
November.....	31,881,163	4,854,869	2,355,074	529,046	7,738,989	120,147	229,516
December.....	32,123,778 ¹	4,798,317	2,164,051	494,483	7,456,851	255,575	230,015
January.....	34,756,076 ²	4,506,934	2,010,388	467,649	6,984,971	253,761	273,169
February.....	34,819,104	4,461,519	1,961,051	428,373	6,850,943	1,386,940 ³	217,786
March.....	35,075,058	4,301,871	2,116,765	444,933	6,863,569	338,007	198,631
1954-55—							
April.....	35,367,522	4,763,497	2,200,742	475,383	7,439,622	183,985	236,046
May.....	35,614,242	4,955,540	2,257,091	532,332	7,744,963	110,091	249,369
June.....	35,895,810	5,139,100	2,454,458	545,018	8,138,576	280,356	310,039
July.....	35,861,032	5,319,656	2,871,376	560,099	8,751,131	176,126	314,878
August.....	35,912,345	5,035,273	3,241,668	602,802	8,879,743	99,240	346,513
September.....	35,866,683	5,257,570	2,939,514	592,651	8,789,735	92,384	274,142
October.....	36,084,397	4,947,181	2,548,237	523,793	8,019,211	98,179	327,998
November.....	36,251,568	5,013,890	2,735,793	550,466	8,300,149	153,986	256,794
December.....	36,389,890	5,205,008	2,555,868	511,894	8,272,770	223,654	258,568
January.....	36,582,958	4,711,135	2,593,438	476,063	7,780,636	184,741	217,518
February.....	36,787,074	4,859,668	2,309,850	443,791	7,613,309	1,314,650 ³	232,055
March.....	36,884,372	5,091,831	2,469,050	475,725	8,036,606	127,971	282,033

¹ Excludes increases granted to classified employees, which were not available for December.

² Includes increases.

³ Includes Post Office Christmas rush overtime payments.

3.—Federal Government Employment for the Month of March 1954 and 1955 and Earnings for the Years Ended Mar. 31, 1954 and 1955 classified by Department and Principal Branch or Service.

NOTE.—Excludes Federal Government enterprises, figures for which are given in Table 4. Figures for 1953 are given on pp. 114-118 of the 1955 Year Book.

Department and Branch or Service	1954				1955			
	Classified		Exempt		Classified		Exempt	
	Em- ployees	Earnings	Em- ployees	Earnings	Em- ployees	Earnings	Em- ployees	Earnings
	No.	\$'000	No.	\$'000	No.	\$'000	No.	\$'000
Agriculture	5,610	19,611.9	1,934	5,018.9	5,739	21,533.5	1,940	5,686.0
General Services.....	221	651.5	19	68.0	196	602.9	4	14.6
Science Service.....	1,390	5,009.3	158	401.6	1,450	5,620.8	141	420.6
Experimental Farms Service.....	926	3,363.9	992	2,530.0	938	3,639.8	1,028	2,829.5
Production Service.....	1,581	5,537.3	71	155.2	1,612	6,028.1	81	223.5
Marketing Service.....	987	3,314.3	2	12.3	996	3,540.1	10	13.0
Rehabilitation Services (PFRA and MMRA, etc.).....	474	1,644.8	692	1,851.8	530	2,022.5	676	2,184.8
Agricultural Prices Support Act..	31	90.8	—	—	17	79.3	—	—
Auditor General	141	564.6	—	—	140	631.7	—	—
General Services.....	140	549.6	—	—	139	613.8	—	—
Statutory.....	1	15.0	—	—	1	17.9	—	—
Chief Electoral Office	20	105.3	—	—	18	77.0	—	—
General Services.....	19	93.3	—	—	17	65.0	—	—
Statutory.....	1	12.0	—	—	1	12.0	—	—

3.—Federal Government Employment for the Month of March 1954 and 1955 and Earnings for the Years Ended Mar. 31, 1954 and 1955 classified by Department and Principal Branch or Service—continued.

Department and Branch or Service	1954				1955			
	Classified		Exempt		Classified		Exempt	
	Em- ployees	Earnings	Em- ployees	Earnings	Em- ployees	Earnings	Em- ployees	Earnings
	No.	\$'000	No.	\$'000	No.	\$'000	No.	\$'000
Citizenship and Immigration	2,954	8,684.9	508	593.0	3,315	10,033.3	540	684.5
General Services.....	85	248.4	—	—	100	325.5	—	—
Citizenship.....	107	287.6	—	—	102	316.7	—	—
Immigration Branch.....	1,520	4,772.8	383	464.4	1,600	5,242.6	383	548.1
Indian Affairs Branch—								
General Services.....	586	1,679.8	—	—	619	1,854.0	—	—
Schools—day and residential..	626	1,595.7	125	128.6	864	2,189.0	157	136.4
National Gallery of Canada.....	30	100.6	—	—	30	105.5	—	—
Civil Service Commission	570	1,758.7	—	—	595	1,952.6	—	—
Defence Production	1,522	4,901.3	—	—	1,455	4,887.3	—	—
External Affairs	1,060	3,658.4	414	628.3	1,107	4,124.2	441	709.0
General Services.....	629	1,833.8	—	—	684	2,236.6	—	—
Representation Abroad.....	411	1,734.2	414	628.3	402	1,791.0	441	709.0
International Joint Commission..	20	90.4	—	—	21	96.6	—	—
Finance	5,168	14,065.8	8	29.7	5,118	15,105.2	8	36.2
General Services.....	496	1,489.0	—	—	496	1,632.3	—	—
Comptroller of the Treasury.....	4,145	10,891.0	—	—	4,095	11,676.5	—	—
Administration of Acts—								
Tariff Board.....	15	81.8	—	—	16	89.4	—	—
Royal Canadian Mint.....	215	735.2	—	—	224	775.2	—	—
Other.....	165	437.0	—	—	160	464.4	—	—
Halifax Relief Commission.....	5	13.7	8	22.7	4	10.4	8	24.2
Canadian Farm Loan Board.....	127	418.1	—	7.0	123	457.0	—	12.0
Fisheries	1,217	4,020.2	630	2,225.2	1,246	4,494.4	629	2,284.4
General Services.....	800	2,611.0	575	1,993.3	819	2,827.4	557	2,140.5
Fisheries Research Board.....	343	1,132.7	25	152.2	358	1,392.4	44	87.1
International Commissions.....	43	184.0	4	26.1	42	188.9	4	13.7
Newfoundland Bait Service.....	27	77.6	26	53.6	24	66.1	24	43.1
Newfoundland Fisheries Board..	4	14.9	—	—	3	19.6	—	—
Governor General and Lieuten- ant-Governors	24	187.2	—	—	24	189.1	—	—
General Services.....	12	45.1	—	—	13	47.3	—	—
Statutory.....	12	142.1	—	—	11	141.8	—	—
Insurance	94	362.0	—	—	92	389.4	—	—
Justice	2,263	9,541.9	—	—	2,286	10,016.0	—	—
General Services.....	194	773.9	—	—	203	849.4	—	—
Administration of Courts.....	52	172.1	—	—	53	194.9	—	—
Statutory.....	312	3,573.1	—	—	315	3,622.5	—	—
Office of the Commissioner of Penitentiaries.....	1,705	5,022.8	—	—	1,715	5,349.2	—	—
Labour	7,632	20,536.8	1,899	1,582.1	7,628	21,994.5	1,740	1,885.6
General Services.....	444	1,417.9	11	19.3	399	1,547.2	12	16.2
Annuities Act.....	173	436.4	17	11.0	174	463.9	9	13.5
Vocational Training Co-ordina- tion.....	5	27.7	—	—	8	34.5	—	—
Unemployment Insurance Act—	7,010	18,654.8	1,871	1,551.8	7,047	19,948.9	1,719	1,855.9
Legislation	802	1,876.7	95	143.6	768	1,963.9	105	171.3
Senate.....	92	295.5	69	78.5	91	313.1	70	83.2
House of Commons.....	687	1,482.3	—	—	651	1,534.6	—	—
Library of Parliament.....	23	98.9	26	65.1	26	116.2	35	88.1
Mines and Technical Surveys	1,759	6,514.6	160	169.3	1,821	7,493.0	161	542.3
General Services.....	272	956.7	1	1	266	1,071.5	81	14.7
Mines Branch.....	421	1,673.5	—	—	452	1,949.8	102	194.1
Geological Survey of Canada.....	249	1,088.2	1	1	266	1,255.6	31	5.6
Surveys and Mapping Branch.....	788	2,697.2	160	169.3	807	3,100.0	481	327.9
Dominion Coal Board.....	21	67.0	—	—	22	82.1	—	—
International Boundary Com- mission.....	8	32.0	—	—	8	34.0	—	—

For footnote, see end of table, p. 132.

3.—Federal Government Employment for the Month of March 1954 and 1955 and Earnings for the Year Ended Mar. 31, 1954 and 1955 classified by Department and Principal Branch or Service—continued.

Department and Branch or Service	1954				1955			
	Classified		Exempt		Classified		Exempt	
	Em- ployees	Earnings	Em- ployees	Earnings	Em- ployees	Earnings	Em- ployees	Earnings
	No.	\$'000	No.	\$'000	No.	\$'000	No.	\$'000
National Defence	29,703	67,672.5	16,015	51,018.8	32,688	83,464.4	21,221	57,322.7
Administration and Inspection Services.....	3,102	8,058.0	—	—	3,187	9,635.5	—	—
Navy.....	5,471	12,940.5	4,177	14,197.9	6,247	15,727.0	5,554	14,789.5
Army.....	12,232	26,433.2	6,600	22,222.9	12,952	31,489.4	8,880	25,207.9
Air.....	6,854	13,832.1	4,783	13,083.2	8,131	19,286.9	6,280	15,623.2
Defence Research and Development.....	2,039	6,390.3	455	1,544.8	2,166	7,307.2	507	1,702.1
War Museum.....	5	18.4	—	—	5	18.4	—	—
National Film Board	537	1,866.3	16	24.0	551	2,101.3	40	43.8
National Health and Welfare	2,874	8,437.4	863	1,356.1	2,941	9,335.3	985	1,725.8
General Services.....	367	963.5	39	52.6	371	1,144.3	62	92.1
National Health Branch—								
Immigration Medical Services.....	293	982.4	50	79.8	282	1,079.9	62	87.6
Indian and Eskimo Health Services.....	784	2,257.1	742	1,144.6	837	2,616.0	824	1,467.4
Other.....	563	2,054.4	32	75.8	589	2,225.7	37	78.7
Welfare Branch.....	867	2,180.0	—	3.3	862	2,269.4	—	—
National Research Council and Atomic Energy Control Board	2,374	8,027.7	41	332.3	2,489	9,131.8	28	185.0
National Revenue	14,058	42,350.1	—	—	14,707	47,037.5	—	—
Customs and Excise Divisions.....	6,790	22,298.1	—	—	7,201	24,792.0	—	—
Taxation Division.....	7,253	19,971.1	—	—	7,492	22,163.6	—	—
Income Tax Appeal Board Administration—								
Expenses.....	11	37.6	—	—	11	41.8	—	—
Statutory.....	4	43.3	—	—	3	40.1	—	—
Northern Affairs and National Resources	1,565	5,139.7	770	3,360.7	1,539	5,219.9	1,194	3,609.8
General Services.....	110	394.4	—	11.9	119	406.8	—	—
National Parks Branch.....	479	1,235.9	588	2,878.5	499	1,355.6	1,035	2,997.7
Engineering and Water Resources Branch.....	301	1,273.6	26	198.4	242	1,005.4	37	221.7
Northern Administration and Lands Branch.....	232	721.4	92	89.1	279	871.4	61	167.2
Forestry Branch.....	355	1,295.9	64	182.8	323	1,353.2	61	223.2
Canadian Government Travel Bureau.....	88	218.5	—	—	77	227.5	—	—
Post Office	19,789²	55,818.8²	—	—	21,320²	62,717.8²	—	—
General Services.....	288	877.0	—	—	291	979.7	—	—
Operations.....	18,978 ²	53,403.8 ²	3	3	20,526 ²	60,163.8 ²	3	3
Transportations.....	82	273.8	—	—	80	302.3	—	—
Financial Services.....	441	1,264.2	—	—	423	1,272.0	—	—
Privy Council	142	509.6	262	839.2	145	565.9	292	946.0
Privy Council Office.....	103	364.2	—	—	106	368.1	—	—
Federal District Commission.....	39	145.4	262	839.2	39	197.8	292	946.0
Public Archives and National Library	78	261.8	—	—	83	301.8	—	—
Public Archives.....	59	217.6	—	—	60	233.5	—	—
National Library.....	19	44.2	—	—	23	68.3	—	—
Public Printing and Stationery	463	1,192.8	832	2,820.0	469	1,391.6	921	3,100.1
Public Works	4,192	10,215.6	3,605	6,874.6	4,502	11,871.0	3,368	6,539.3
General Services.....	310	707.3	—	—	248	938.0	—	—
Architectural Branch.....	3,326	7,489.9	2,908	3,636.5	3,597	8,396.1	2,518	3,522.4
Engineering Branch.....	556	2,018.4	697	3,238.1	657	2,536.9	850	3,016.9
Royal Canadian Mounted Police	5,651	16,949.9	461	1,075.2	5,751	19,089.3	485	1,239.3
General Services.....	903	1,839.8	—	—	936	2,065.5	—	—
Other.....	4,748	15,110.1	461	1,075.2	4,815	16,993.8	485	1,239.3

For footnotes, see end of table, p. 132.

3.—Federal Government Employment for the Month of March 1954 and 1955 and Earnings for the Years Ended Mar. 31, 1954 and 1955 classified by Department and Principal Branch or Service—concluded.

Department and Branch or Service	1954				1955			
	Classified		Exempt		Classified		Exempt	
	Em- ployees	Earnings	Em- ployees	Earnings	Em- ployees	Earnings	Em- ployees	Earnings
	No.	\$'000	No.	\$'000	No.	\$'000	No.	\$'000
Secretary of State	554	1,870.0	—	—	579	2,117.1	—	—
Office of the Custodian	54	263.7	—	—	49	223.6	—	—
Trade and Commerce	3,374	10,478.4	325	632.7	3,358	11,041.4	327	578.1
General Services.....	973	3,433.7	271	467.3	969	3,723.9	282	485.2
Dominion Bureau of Statistics.....	1,405	3,985.0	—	—	1,393	4,070.7	—	—
Board of Grain Commissioners.....	826	2,577.3	—	—	839	2,762.2	—	—
Canadian Government Elevators.....	170	482.4	54	165.4	157	484.6	45	92.9
Transport	8,604	23,775.7	3,694	8,811.6	8,613	25,753.4	2,869	8,291.2
General Services.....	480	1,441.5	—	—	435	1,616.0	—	—
Canal Services.....	1,051	2,887.4	725	2,022.8	1,073	3,123.5	757	2,028.9
Marine Services.....	1,944	3,315.1	1,948	3,770.8	1,934	3,653.5	1,367	3,891.5
Air Services—								
Administration.....	63	406.1	—	—	63	200.6	—	—
Telecommunications.....	1,873	5,870.1	136	300.1	1,729	5,844.1	81	278.6
Meteorological Division.....	1,308	3,970.7	46	124.5	1,348	4,424.6	47	124.6
Civil Aviation Division.....	1,631	4,831.6	839	2,593.4	1,787	5,773.6	617	1,967.6
Air Transport Board.....	53	193.0	—	—	49	202.7	—	—
Board of Transport Commis- sioners—								
General Services.....	167	685.8	—	—	163	737.8	—	—
Statutory.....	4	53.1	—	—	4	53.1	—	—
Canadian Maritime Commis- sion.....	30	121.3	—	—	28	123.9	—	—
Veterans Affairs	12,426	35,643.8	1,560	2,128.6	12,014	37,247.0	1,469	2,186.0
General Services.....	2,657	7,817.8	—	4.4	2,577	8,301.4	2	4.6
Treatment Services.....	8,215	22,404.1	1,560	2,124.2	7,896	23,186.0	1,467	2,181.4
Canadian Pension Commission—								
General Services.....	415	1,467.2	—	—	421	1,608.8	—	—
Statutory.....	14	130.0	—	—	14	130.0	—	—
Veterans' Land Act.....	1,125	3,824.7	—	—	1,106	4,020.8	—	—
Grand Totals	137,274	386,864.1	34,092	89,693.9	143,150	433,498.2	38,763	97,766.4

¹ Field parties of varying numbers of employees reported earnings of \$987,981 and \$1,075,462 for the years ended Mar. 31, 1954 and 1955 respectively.

² In addition earnings of a varying number of employees of post offices with annual revenues of less than \$20,000 amounted to \$15,962,851 and \$17,897,477 for the years ended Mar. 31, 1954 and 1955 respectively.

³ Casual employees for the Christmas rush numbering 36,070 earned \$1,850,950 in the year ended Mar. 31, 1954 and 37,172 earned \$1,819,947 in the year ended Mar. 31, 1955.

4.—Employees of Federal Government Enterprises¹ and Their Earnings by Month, Years Ended Mar. 31, 1954 and 1955

NOTE.—Figures for 1952-53 are given at p. 119 of the 1955 Year Book.

Month	1953-54		1954-55	
	Employees	Earnings	Employees	Earnings
	No.	\$	No.	\$
April.....	145,394	39,009,033	139,528	38,881,847
May.....	148,583	41,180,717	142,408	38,106,684
June.....	152,295	41,669,967	145,434	40,074,807
July.....	155,177	41,606,734	148,613	40,338,784
August.....	156,865	42,013,127	149,196	39,964,936
September.....	156,061	41,777,157	148,099	40,317,161
October.....	151,997	40,832,615	145,592	40,270,554
November.....	146,633	39,020,850	143,767	40,007,899
December.....	144,125	39,612,047	141,950	39,376,178
January.....	143,477	38,017,438	140,610	37,662,611
February.....	144,900	40,104,523	138,175	39,011,119
March.....	139,473	38,165,250	137,648	38,471,774

¹ See text on p. 128.

PART V.—CANADA'S EXTERNAL RELATIONS

The growth of Canada's international status is reflected in the development of the Department of External Affairs. A review of the organization and development of that Department is given in the 1952-53 Year Book, pp. 101-104.

Section 1.—Diplomatic Representation as at May 31, 1955

NOTE.—For changes in this listing subsequent to July 1, 1955 and names of current Representatives see, *Canadian Representatives Abroad and Representatives of Other Countries in Canada*, published quarterly and obtainable from the Queen's Printer, Ottawa, price 25 cents.

1.—Canadian Representation Abroad

Country and Year Representation Established	Present Status of Representative	Address
Argentina.....1941	Ambassador.....	Bartolomé Mitre, 478, Buenos Aires
Australia.....1939	High Commissioner.....	State Circle, Canberra
Austria.....1952	Minister.....	Strauchgasse 1, Vienna
Belgium.....1939	Ambassador.....	35, rue de la Science, Brussels
Brazil.....1941	Ambassador.....	Avenida Presidente Wilson, 165, Rio de Janeiro
Ceylon.....1953	High Commissioner.....	6 Gregory's Road, Cinnamon Gardens, Colombo
Chile.....1942	Ambassador.....	Avenida General Bulnes 129, Santiago
Colombia.....1953	Ambassador.....	Rm. 613 Edificio Henry Faux, Avenida Jimenez de Quesada 7-25, Bogota
Cuba.....1945	Ambassador.....	Edificio Ambar Motors, Avenida Menocal No. 16, Havana
Czechoslovakia.....1943	Chargé d'Affaires <i>ad interim</i>	Krakovská 22, Prague, 2
Denmark.....1946	Minister.....	4 Trondhjems Plads, Copenhagen
Dominican Republic.....1954	Ambassador.....	410 Calle El Conde, Ciudad Trujillo
Egypt.....1954	Ambassador.....	6 Sharia Rustom, Garden City, Cairo
Finland.....1949	Minister.....	Borgmasterbrinken 3-C. 32, Helsinki
France.....1928	Ambassador.....	72 avenue Foch, Paris xvi
Germany.....1950	Ambassador.....	Zitelmanstrasse 22, Bonn
Greece.....1943	Ambassador.....	31, avenue Vassilissis Sofias, Athens
Haiti.....1954	Ambassador.....	Route du Canape Vert, St. Louis de Turgeau, Port-au-Prince
Iceland.....1949	Minister.....	c/o Canadian Legation, Fridtjof Nansens Plass 5, Oslo, Norway
India.....1947	High Commissioner.....	4 Aurangzeb Road, New Delhi
Indonesia.....1953	Ambassador.....	Djalan Budi Kemuliaan No. 6, Djakarta
Ireland.....1940	Ambassador.....	92 Merrion Square West, Dublin
Israel.....1954	Ambassador.....	Farmers' Bldg., Dizengoff Road, Tel Aviv
Italy.....1947	Ambassador.....	Via Saverio Mercadante 15, Rome
Japan.....1929	Ambassador.....	16 Omote-Machi, 3-Chome, Akasaka, Minato-ku, Tokyo
Lebanon.....1954	Minister.....	Immeuble Alpha, rue Clemenceau, Beirut
Luxembourg.....1945	Minister.....	c/o Canadian Embassy, 35, rue de la Science, Brussels, Belgium
Mexico.....1944	Ambassador.....	Edificio Internacional, Paseo de la Reforma, No. 1, Mexico City
Netherlands.....1939	Ambassador.....	Sophialaan 1A, The Hague
New Zealand.....1940	High Commissioner.....	Government Life Insurance Bldg., Custom-house Quay, C.L., Wellington
Norway.....1943	Minister.....	Fridtjof Nansens Plass 5, Oslo
Pakistan.....1950	High Commissioner.....	Metropole Hotel, Victoria Road, Karachi
Peru.....1944	Ambassador.....	Edificio Boza, Plaza San Martin, Lima
Poland.....1943	Chargé d'Affaires <i>ad interim</i>	31 Ulica Katowicka, Saska Kepa, Warsaw
Portugal.....1952	Ambassador.....	Avenida da Praia da Vitoria No. 48-1 ^a , D ^a , Lisbon
Spain.....1953	Ambassador.....	Edificio España, Avenida de Jose Antonio 88, Madrid
Sweden.....1947	Minister.....	Strandvagen 7-C, Stockholm
Switzerland.....1947	Ambassador.....	88 Kirchenfeldstrasse, Berne
Turkey.....1947	Ambassador.....	Mudafaai Huduk Caddesi, No. 19d, Canakaya, Ankara
Union of South Africa.....1940	High Commissioner.....	Kerry Bldg., 238 Vermeulen St., Pretoria
Union of Soviet Socialist Republics.....1943	Ambassador.....	23 Starokonyushenny Pereulok, Moscow
United Kingdom.....1880	High Commissioner.....	Canada House, Trafalgar Square, London, S.W. 1
United States of America.....1927	Ambassador.....	1746 Massachusetts Avenue, Washington, D.C.

1.—Canadian Representation Abroad—concluded

Country and Year Representation Established	Present Status of Representative	Address
Uruguay.....1952	Ambassador.....	1409 Avenida Agraciada, Piso 7º, Montevideo
Venezuela.....1952	Ambassador.....	Edificio Pan-American, Puente Urapal, Candelaria, Caracas
Yugoslavia.....1943	Ambassador.....	Proliterskih Brigada 69, Belgrade
Other Missions		
Canadian Military Mission (1946) ..	Head of Mission.....	Perthshire Block, Olympic Stadium, Headquarters Berlin, (British Sector)
Canadian Delegation to the North Atlantic Council (1952) and Organization for European Economic Co-operation (1950).....	Representative.....	77, rue d'Auteuil, Paris xvi
Permanent Delegation of Canada to the United Nations (1948).....	Permanent Representative....	Rm. 504, 620 Fifth Ave., New York 20, N.Y.
Permanent Delegation of Canada to European Office of the United Nations (1948).....	Permanent Representative....	La Pelouse, Palais des Nations, Geneva

Consulates

Brazil.....1947	Consul.....	Rua 7 de Abril 252, São Paulo
United States of America.....1948	Consul General.....	532 Little Bldg., 80 Boylston St., Boston 16, Mass.
“.....1947	Consul General.....	Suite 800, Daily News Bldg., 400 W. Madison St., Chicago 6, Ill.
“.....1948	Consul.....	1035 Penobscot Bldg., Detroit 26, Mich.
“.....1953	Consul General.....	Associated Realty Bldg., Los Angeles 14, Cal.
“.....1952	Consul General.....	215 International Trade Mart, New Orleans 12, La.
“.....1943	Consul General.....	620 Fifth Ave., New York, N.Y.
“.....1947	Honorary Vice-Consul.....	443 Congress St., Portland, Maine
“.....1948	Consul General.....	400 Montgomery St., San Francisco 4, Cal.
“.....1953	Consul General.....	1407 Tower Bldg., 7th Ave. at Olive Way, Seattle 1, Wash.
Republic of the Philippines...1949	Consul General.....	Ayala Bldg., Juan Luna St., Manila

2.—Representation of Other Countries in Canada

Country and Year Representation Established	Present Status of Representative	Address
Argentina.....1941	Ambassador.....	211 Stewart Street, Ottawa
Australia.....1940	High Commissioner.....	100 Sparks Street, Ottawa
Austria.....1952	Chargé d'Affaires <i>ad interim</i> ...	445 Wilbrod Street, Ottawa
Belgium.....1937	Ambassador.....	168 Laurier Avenue East, Ottawa
Brazil.....1941	Ambassador.....	102 Carling Avenue, Ottawa
Chile.....1942	Ambassador.....	Suite 215, 56 Sparks Street, Ottawa
China.....1942	Ambassador.....	201 Wurttemberg Street, Ottawa
Colombia.....1953	Chargé d'Affaires, <i>ad interim</i> ...	Apt. 29, The Roxborough, Ottawa
Cuba.....1945	Ambassador.....	400 Holland Avenue, Ottawa
Czechoslovakia.....1942	Minister.....	171 Clemow Avenue, Ottawa
Denmark.....1946	Minister.....	451 Daly Avenue, Ottawa
Dominican Republic.....1954	Ambassador.....	The Roxborough, Ottawa
Egypt.....1954	Ambassador.....	The Roxborough, Ottawa
Finland.....1948	Chargé d'Affaires.....	140 Wellington Street, Ottawa
France.....1928	Ambassador.....	42 Sussex Street, Ottawa
Germany.....1951	Ambassador.....	580-582 Chapel Street, Ottawa
Greece.....1942	Ambassador.....	Chateau Laurier Hotel, Ottawa
Haiti.....1954	Ambassador.....	Suite 6, 130 Sparks Street, Ottawa
Iceland.....1948	Minister.....	Chateau Laurier Hotel, Ottawa
India.....1947	High Commissioner.....	200 MacLaren Street, Ottawa
Indonesia.....1953	Ambassador.....	160 Metcalfe Street, Ottawa
Ireland.....1939	Ambassador.....	140 Wellington Street, Ottawa
Israel.....1953	Ambassador.....	45 Powell Avenue, Ottawa
Italy.....1947	Ambassador.....	384 Laurier Avenue East, Ottawa

2.—Representation of Other Countries in Canada—concluded

Country and Year Representation Established	Present Status of Representative	Address
Japan.....1928	Ambassador.....	88 Metcalfe Street, Ottawa
Luxembourg.....1949	Minister.....	Chateau Laurier Hotel, Ottawa
Mexico.....1944	Chargé d'Affaires <i>ad interim</i>	88 Metcalfe Street, Ottawa
Netherlands.....1939	Ambassador.....	12 Marlborough Avenue, Ottawa
New Zealand.....1942	High Commissioner.....	107 Wurttemberg Street, Ottawa
Norway.....1942	Chargé d'Affaires <i>ad interim</i>	140 Wellington Street, Ottawa
Pakistan.....1949	High Commissioner.....	505 Wilbrod Street, Ottawa
Peru.....1944	Ambassador.....	539 Island Park Drive, Ottawa
Poland.....1942	Chargé d'Affaires.....	183 Carling Avenue, Ottawa
Portugal.....1952	Ambassador.....	285 Harmer Avenue, Ottawa
Spain.....1953	Ambassador.....	149 Daly Avenue, Ottawa
Sweden.....1943	Minister.....	720 Manor Road, Rockcliffe Park, Ont.
Switzerland.....1946	Minister.....	5 Marlborough Avenue, Ottawa
Turkey.....1944	Ambassador.....	197 Wurttemberg Street, Ottawa
Union of South Africa.....1938	High Commissioner.....	9 Rideau Gate, Ottawa
Union of Soviet Socialist Republics.....1942	Ambassador.....	285 Charlotte Street, Ottawa
United Kingdom.....1928	High Commissioner.....	Earnscliffe, Ottawa
United States of America.....1927	Ambassador.....	100 Wellington Street, Ottawa
Uruguay.....1948	Ambassador.....	170 Laurier Avenue East, Ottawa
Venezuela.....1953	Ambassador.....	The Roxborough, Ottawa
Yugoslavia.....1942	Ambassador.....	17 Blackburn Avenue, Ottawa

Section 2.—International Activities*

Subsection 1.—Canada and Commonwealth Relations 1954-55

Consultation at all levels is of basic importance to what has been called "the art of Commonwealth relations". A continuous and close exchange of views on questions of mutual interest is a vital aspect of the flexible political instrument which draws together the eight sovereign independent nations of which the Commonwealth is comprised on a basis of freedom and equality. The aim of this consultation is to ensure that in formulating policies in the international field, each member country should have an appreciation of the views of the other members whose interests are affected.

During the period under review (Apr. 1, 1954 to May 31, 1955) consultation continued to be close and took many forms. The foremost example was the meeting of Commonwealth Prime Ministers which opened in London on Jan. 31, 1955. The conference coincided with the crisis over Formosa and consideration of Far Eastern affairs took up almost half of the plenary sessions. The Prime Ministers also turned their attention to developments in Europe and the Middle East and reviewed the economic situation and the prospects for the sterling area countries in making progress towards freer trade and payments. The problem of security was examined in the light of the development of thermo-nuclear weapons. Discussion was extremely frank. As Canada's Prime Minister, the Rt. Hon. Louis S. St. Laurent, emphasized in his report to Parliament it was of immense value to the Prime Ministers of the Western Governments to get the point of view of important leaders from Asia on vital Asian problems and indeed on all the matters before the meeting.

One important decision taken by the conference was to agree to Pakistan's request to be accepted as a continuing member of the Commonwealth after becoming a republic on the same basis as agreed for India in 1949. In raising this matter, the Prime Minister of Pakistan, Mr. Mohammed Ali, emphasized that there was no desire in his country to weaken the link with the Commonwealth. There was ready agreement that it was for Pakistan to decide what form of constitution it should have; nevertheless the decision that a nation of 80,000,000 people should cease to owe allegiance to the Queen was not taken without a sense of the drama involved.

* Prepared by the Department of External Affairs, Ottawa.

Consultation takes many forms, one of which is reflected in the visits of distinguished national leaders to other countries of the Commonwealth. Insofar as Canada was concerned 1954-55 proved to be particularly fruitful in this regard. During August 1954 His Royal Highness the Duke of Edinburgh spent almost three weeks on a tour of Canada which took him to Ottawa, to the atomic energy establishment at Chalk River, to defence establishments and other points of interest in the western provinces and to Kitimat where he officiated at the pouring of the first ingot at the new aluminum plant. After officially closing the Fifth Empire and Commonwealth Games at Vancouver on Aug. 7, the Duke embarked on an extensive visit to Canada's far north. From Vancouver he flew to Whitehorse in Yukon Territory and then, after visiting Port Radium, Coppermine and Yellowknife in the Northwest Territories, flew to Churchill, Man. Three days later he was at Knob Lake in Labrador where he saw the massive iron ore development. After two days' fishing at Goose Bay, the Duke and his party returned by air to the United Kingdom on Aug. 17.

In November Canada was honoured to receive a visit from Queen Elizabeth, the Queen Mother, who, following a visit to the United States, spent five days in Ottawa during which she was the central figure at numerous official functions and recalled memories of the Royal Tour of 1939.

The first distinguished Commonwealth statesmen to come to Canada during the year were Sir Winston Churchill and Sir Anthony Eden who arrived in Ottawa at the end of June 1954, following their talks with President Eisenhower in Washington. During their stay in the Canadian Capital, the British Prime Minister and Foreign Secretary exchanged views with Canadian Ministers on questions of mutual interest.

At the end of September the Vice-President of India, Dr. Saravapalli Radhakrishnan, spent two days in Ottawa as the guest of the Government before proceeding to McGill University to deliver a series of lectures. A distinguished philosopher and academician, Dr. Radhakrishnan spoke of the Indian approach to world problems in conversations with government leaders and Canadians interested in international affairs.

In October the then Secretary of State for Commonwealth Relations, Viscount Swinton, undertook a three week tour of Canada from coast to coast following similar tours in other Commonwealth countries. Later on the Permanent Under Secretary of State for Commonwealth Relations, Sir Gilbert Laithwaite, also undertook an extensive tour of Canada which carried him to all sections of the country and brought him into touch with public figures in the principal centres.

Early in December the Prime Minister of Ceylon, Sir John Kotelawala, spent some time in Canada in the course of a trip around the world. While in Ottawa Sir John spoke in appreciative terms of Canada's part in Colombo Plan projects in Ceylon. Before leaving for the United States he paid brief visits to Toronto, Niagara Falls and Montreal.

Mr. Mohammed Ali, Prime Minister of Pakistan, visited Ottawa in January 1955 prior to proceeding to the Commonwealth Prime Ministers' Meeting in London.

In March 1955 the Prime Minister of Australia, Mr. R. G. Menzies, spent nearly a week in Canada. Mr. Menzies, accompanied by the Hon. A. G. Townley, Minister for Air and Civil Aviation, and senior advisers met with members of the Canadian Government and was guest of honour at a number of official functions.

Canadian Ministers also made several trips to Commonwealth countries on official business during the year. Prime Minister St. Laurent, accompanied by the Secretary of State for External Affairs, the Hon. L. B. Pearson, attended the Prime Ministers' meetings in London, Eng. at the end of January and was the recipient of the Freedom of the City at a splendid ceremony in Guildhall. In April and May 1955 the Minister of Trade and Commerce and Defence Production, the Rt. Hon. C. D. Howe, undertook a goodwill visit to Australia and New Zealand accompanied by the Deputy Minister of Trade and Commerce, Mr. W. F. Bull. Mr. Howe arrived in Australia by air from Vancouver on Apr. 11, 1955. During his tour he visited four of the six States—New South Wales, Queensland, Victoria and South Australia—and the national capital, Canberra. Between official functions he

found time for conversations with members of the Australian Wheat Board, civil aviation authorities, trade officials and other Australian leaders including members of the Commonwealth and State governments. These conversations were helpful in reaching an understanding of Australian problems and points of view but were subsidiary to the main purpose of his trip.

The Australian tour ended on Anzac Day, Apr. 25 when Mr. Howe and Mr. Bull flew to New Zealand. During his stay in that country Mr. Howe visited Christchurch on the South Island, Wellington and Auckland on the North Island and numerous in-between points. At a State luncheon given in Mr. Howe's honour Prime Minister Holland spoke of Canada as the valued and affectionately regarded senior partner in Commonwealth affairs whose advice was always listened to with respect.

Mr. Howe's tour of Australia and New Zealand was an outstanding success. The warmth and cordiality which he received on both the official and unofficial levels and the keen interest displayed by the press in his distinguished career as a Commonwealth statesman and his leadership in the field of Canadian commercial and industrial development confirm the lively sentiments of friendship which the people of Australia and New Zealand entertain for Canada.

A survey of Commonwealth relations would be incomplete without mention of the Fifth British Empire and Commonwealth Games which were staged in the summer of 1954 in Vancouver. The games were officially opened on the evening of July 30 by Field Marshal the Rt. Hon. Earl Alexander of Tunis and were closed on the evening of Aug. 7 by His Royal Highness the Duke of Edinburgh.

This event brought together on the playing fields of Canada's westernmost province, athletes from the United Kingdom, from Australia and New Zealand, from India and Pakistan, from South Africa, from Hong Kong and the Federation of Rhodesia and Nyasaland and from other parts of the Commonwealth. Their friendly rivalry on the sporting field reflected something of that special "family" relationship which is characteristic of the Commonwealth and of contacts between peoples who belong to it. From the point of view of the numbers of athletes participating, the regions represented, and the standard of competition, the Fifth Games were the most successful ever held. But even more important was the opportunity provided for young men and women from all quarters of the globe to see something of Canada and Canadians, to live and to talk together, to exchange ideas and to gain an understanding and appreciation of those qualities of tolerance and mutual confidence which form the basis of the Commonwealth as a living institution.

A continuing and deep-rooted economic problem arises out of the backward agricultural and industrial condition of many countries of south and southeast Asia. Throughout this area conditions had worsened as a result of destruction and impoverishment during World War II. The age-old enemies of mankind—poverty, illiteracy and disease—were in the ascendant and threatened to undermine the promise of healthy and continuous development which had fired the imagination of the peoples of this region, many of whom had recently assumed responsibility for the conduct of their own affairs. The 1950 Conference of Commonwealth Foreign Ministers at Colombo considered the need for the more industrially advanced countries to give assistance to the nations of south and southeast Asia and fashioned the Colombo Plan. Although enlarged since its inception the Colombo Plan was originally a Commonwealth idea and has played a useful part in strengthening the new nation States in their struggle to improve the living conditions of their peoples and realize their national aspirations. Canada was pleased to play host to the third meeting of the Colombo Plan Consultative Committee in Ottawa in October 1954.

Commonwealth co-operative arrangements also exist in other fields. During recent years international tension made it necessary to devote to the military strengthening of the free world, including the Commonwealth, resources that might have been used to increase the prosperity and welfare of its inhabitants. Collective security arrangements of various kinds have come into being in a number of areas throughout the world and individual Commonwealth countries play a part in these in accordance with their interests. Canada,

along with the United Kingdom, the United States, and a number of European nations, are members of NATO. Australia, New Zealand and the United States are members of ANZUS, which is concerned with the security of the southwest Pacific; and the United Kingdom, Australia, New Zealand and Pakistan have joined with the United States and others in the Southeast Asia Collective Defence Agreement.

Apart from co-operative arrangements for defence, there are a host of other bodies within the Commonwealth which facilitate the transaction of business and carry forward the day-to-day process of consultation and exchange of information. Canada is represented on such standing groups as the Executive Council of the Commonwealth Agricultural Council; the Commonwealth Economic Committee; the Commonwealth Shipping Committee; the Commonwealth Telecommunications Board; the Commonwealth Air Transport Council; the Commonwealth Advisory Aeronautics Research Council; the Commonwealth Liaison Committee; the Commonwealth Committee on Mineral Resources and Geology; the Imperial Institute; and the Imperial War Graves Commission. These bodies form useful means of exchanging information and views on special economic, scientific or technical questions and of working out recommendations for the consideration of the governments concerned.

Canadian representation within the Commonwealth was extended in 1955 by the appointment of a Trade Commissioner to the Federation of Rhodesia and Nyasaland with an office in Salisbury.

Constitutional development in United Kingdom non-self-governing territories continued to attract attention in 1954-55 and progress towards the establishment of a Caribbean Federation was viewed with considerable interest.

During the period covered by this survey the Commonwealth has continued to serve as one of the most effective vehicles of international discussion and co-operation. Its countries contain a quarter of the world's population embracing peoples of many races and religions. Its strength and influence are derived from this and from a common outlook which, despite differences of geography, religion and race, evokes a broadly similar response to most international problems of the day.

Subsection 2.—Canada and the United Nations

In the year ended May 31, 1955 conflicting interests and views of members adversely affected the activities of the United Nations but the Organization nevertheless continued to make progress on many fronts in its efforts to safeguard peace and advance the economic and social welfare of humanity through international co-operation. As the Organization approached its tenth birthday—the anniversary of the signing of the Charter in San Francisco on June 26, 1945—there was reason to hope that experience gained in its formative years would help make it more effective in its second decade.

As a keeper of the peace and promoter of international co-operation for peaceful purposes the United Nations was intended by its founders to have two primary functions—collective security and pacific settlement of disputes. Deadlock in the Security Council—except in the notable case of the outbreak of war in Korea when the Soviet representative was absent—has shifted responsibility for collective security to regional organizations. As a result of its success in mediating disputes however the United Nations can take credit for terminating and preventing many conflicts which might have had disastrous consequences for the world. The facilities of the United Nations for discussion, compromise and mediation were helpful in encouraging the withdrawal of Russian troops from Iran, the lifting of the Berlin Blockade, pacification of the northern borders of Greece and termination of hostilities in Kashmir, Indonesia and Palestine. When the UN itself became involved in fighting in Korea it succeeded in repelling aggression in the first major application of the principle of collective security by an international organization. In the period under review, Canada continued to be represented on the United Nations Truce Supervisory Corps for Palestine and Kashmir. In August 1954 Major General E. L. M. Burns

of Canada was appointed Chief of Staff for the Palestine Truce Supervisory Organization. Continuation of the armistice in Korea facilitated withdrawal of most of the Canadian military forces which had formed the third largest contribution to the United Nations command during hostilities.

The United Nations has been diligent in its efforts to give increasing independence to non-self-governing peoples and to pool the wealth and skills of mankind in the interests of underprivileged peoples and underdeveloped countries. The United Nations helped Israel and Indonesia achieve their independence. The futures of three large territories in Africa—Libya, Eritrea and Somaliland—all formerly under Italian colonial rule, were resolved by the General Assembly, with Libya becoming an independent kingdom, an autonomous Eritrea being federated with Ethiopia and Somaliland destined to emerge as an independent civil state after a ten-year trusteeship régime. In other parts of Africa and in the Pacific a course is being charted for the future self-government of other large groups of dependent peoples living in Trust Territories. Countries administering colonial areas pledge themselves to make the best interests of the inhabitants their first consideration and they report regularly to the United Nations on conditions in their possessions.

Through its Economic and Social Council, the United Nations seeks to promote higher living standards, full employment, economic and social progress and solutions for international economic, social, health and related problems. Support for the activities of the Economic and Social Council has increased slowly but steadily as member nations have recognized that the edifice of world peace must rest on the solid foundation of a sound and growing world economy, that poverty can lead to unrest and that prosperity, like peace, is indivisible. If the efforts of the United Nations to devise a formula for disarmament are successful much of the vast resources now being poured into defence measures will be available for diversion to works of peace. (As a member of the Disarmament Commission and its Sub-Committee, Canada, in the period under review, played an active role in disarmament negotiations.) In the meantime through its voluntary agencies—United Nations Children's Fund, relief and rehabilitation programs in Korea and Palestine and the work of its High Commissioner for Refugees—the Organization is helping relieve the ravages of previous wars. Canada has made substantial contributions to all the voluntary agencies of the United Nations.

In an address at the opening of the ninth session of the United Nations General Assembly in New York on Sept. 23, 1954 Canada's Secretary of State for External Affairs, the Hon. Lester B. Pearson, reviewed a number of difficulties that beset the United Nations during its early years. He emphasized the need to recognize and understand the divisions within the Organization which had weakened it internally—the fundamental division between totalitarian and free societies, the division between the self-governing and non-self-governing parts of the world, the division between the highly industrialized parts of the world and 'underdeveloped' areas. Mr. Pearson referred also to the 'freeze' on the membership applications of twenty-one countries resulting from the 'cold war' and the difficulties arising from Chinese representation. He continued:

"Mr. President, over the nine short years in which the United Nations has existed, it has been threatened from within, and attacked from without. But with all its shortcomings, it is impossible to envisage a world without the network of practice and precedent, the institutions and procedures for peace making and peace enforcement which we mean by the phrase 'the United Nations'. If this United Nations organization did not exist, we should soon have to find another one."

A number of authorities on the United Nations consider that many of the difficulties referred to by Mr. Pearson could be eliminated by revising the Charter. Article 109, paragraph 3 of the Charter provides for a decision on the calling of a review conference to be made at the tenth session of the General Assembly. Because the Charter cannot be amended without the consent of all the members of the Security Council and because the Union of Soviet Socialist Republics has been consistently antagonistic to changes in the Charter, prospects for the holding of a successful review conference are not promising at present.

Developments in the six principal organs of the United Nations in the year ended May 31, 1955 are summarized below.

General Assembly.—The ninth session of the General Assembly was held in New York from Sept. 21 to Dec. 17, 1954 under the presidency of Mr. Elco M. Van Kleffens of the Netherlands. The Secretary of State for External Affairs, Hon. L. B. Pearson, and the Minister of National Health and Welfare, Hon. Paul Martin, were chairman and vice-chairman respectively of the Canadian Delegation.

The most notable development at the session was the agreement by the USSR to join Canada, France, the United States and the United Kingdom in co-sponsoring a procedural resolution setting the stage for renewed discussions in the Sub-Committee of the Disarmament Commission. As acting chairman of the Canadian Delegation, Mr. Martin took the initiative in obtaining the agreement of the USSR to join the other members of the Sub-Committee in co-sponsoring the resolution which eventually was adopted unanimously by the Assembly. This encouraging display of Assembly unanimity was repeated in respect of another resolution co-sponsored by Canada and a number of Western countries which provided for continued negotiations leading towards the establishment of an agency to further co-operation in the peaceful uses of atomic energy and for the convening in 1955 of an international conference of scientists interested in nuclear and related fields. This resolution was based on President Eisenhower's address on the peaceful uses of atomic energy at the eighth session of the General Assembly. The spirit of co-operation and harmony resulting from the unanimity on the resolutions on disarmament and atomic energy waned later in the session when the Communist members introduced a number of propaganda items—among them an appeal for a ban on propaganda favouring a new war.

Considerable time was spent but little progress made on recurring questions such as race conflict in South Africa and political difficulties in Tunisia and Morocco. New and difficult issues relating to Cyprus and West New Guinea were debated with indecisive results. In the absence of any change of view on the part of the major powers the general question of the admission of new members remained unresolved.

In the economic field Canada pledged \$1,500,000 as its contribution to the expanded program of technical assistance for the coming year and announced its preparedness to support the proposed International Finance Corporation which, under the aegis of the International Bank, would promote investment of capital in private enterprise in under-developed countries. On the question of the proposed Special United Nations Fund for Economic Development, the Canadian Delegation supported a resolution providing for further examination of the manner in which such a fund might operate but made it clear that Canada was not committed to the establishment of such a fund.

During debates on problems of international law the Canadian delegation made known its doubts that a suitable definition of aggression could be agreed upon or that any definition could have any practical value at the present time. With respect to studies of the Continental Shelf the Assembly asked the International Law Commission to complete its work on the régimes of the high seas and territorial waters and to submit a final report to the eleventh session of the Assembly in 1956.

The Assembly agreed on a procedure for final revision of the draft International Covenant on Human Rights and also continued its study of recommendations concerning the right of peoples to 'self-determination'. Consideration was also given to the desirability of drafting a supplementary convention on slavery and two measures for the abolition of forced-labour practices. With respect to women's rights, a resolution was adopted urging the abolition of customs or ancient laws reflecting on the human dignity of women.

Security Council.—Although Canada was not a member of the Security Council in the period under review it had a keen interest in a number of the problems dealt with by the Council. The source of chief concern to the Council was the threat of hostilities between Egypt and Israel resulting from border disputes. Major General Burns reported personally to the Council on a clash between armed forces of Egypt and Israel near Gaza on

the evening of Feb. 28, 1955. After hearing General Burns the Council adopted a resolution condemning the Israeli attack in the Gaza strip as a violation of the cease-fire provisions and calling upon Israel to take all necessary steps to prevent such action. On Mar. 30 the Security Council adopted a second resolution requesting General Burns to continue his consultations with the Governments of Egypt and Israel and calling upon the Governments of the two countries to co-operate with General Burns with regard to his proposals "bearing in mind that, in the opinion of the chief-of-staff, infiltration can be reduced to an occasional nuisance if an agreement is effected between the parties along the lines he has proposed". The Council also was concerned with the seizure of an Israeli vessel, the *Bat Galim*, by the Egyptian authorities in the Suez Canal. Other items on the Security Council agenda during the period under review for which no decisive action was taken included "the hostilities in the area of certain islands off the coast of the mainland of China", an alleged attack on a United States naval aircraft by a military aircraft of the USSR, an alleged threat to the security of Thailand and the outbreak of hostilities in Guatemala.

The second round of discussions of the five-nation (including Canada) Sub-Committee of the Disarmament Commission began in London on Feb. 25, 1955 and continued until May 18. During the discussions the Western Powers supplemented earlier basic proposals by putting forward a number of papers on specific aspects of the disarmament program. One of these papers suggested that the armed forces of the United States, the USSR and China should be reduced from present levels to between one and one and a half million while the forces of France and the United Kingdom should be reduced to 650,000. After having ignored the various Western proposals, the Soviet Union submitted lengthy proposals which embodied the United Kingdom-French suggestions on the level of armed forces together with other main features of the Western plan. However the position of the USSR on the most important question, i.e., international control, remained unclear. Moreover the Soviet proposals dealt with a number of issues such as the German problem, which did not come within the terms of reference of the Sub-Committee. The Sub-Committee decided to adjourn in order to enable its members to examine the new Soviet proposals and the situation arising from their submission to the Sub-Committee.

Economic and Social Council.—Though not a member of the Economic and Social Council since completing its second three year term on Dec. 31, 1952, Canada was, in 1955, serving a second term on the Population Commission of the Council, an indefinite term on the Narcotic Drugs Commission, and was re-elected in May 1955 to the Executive Board of the United Nations Children's Fund and for a third three year term to the Statistical Commission. Canada is a member of all ten Specialized Agencies affiliated with the United Nations through the Economic and Social Council. The Specialized Agencies are intergovernmental organizations through which international co-operation in the economic, social and technical fields is achieved and the pooling and exchange of experience and modern techniques is made possible. The Specialized Agencies are: International Labour Organization (ILO), Food and Agriculture Organization (FAO), World Health Organization (WHO), United Nations Educational, Social and Cultural Organization (UNESCO), International Bank for Reconstruction and Development (IBRD), International Monetary Fund (IMF), International Civil Aviation Organization (ICAO), International Telecommunication Union (ITU), World Meteorological Organization (WMO) and Universal Postal Union (UPU).

In 1954 Canada contributed approximately \$1,320,000 to the expenses of the Specialized Agencies in addition to \$1,500,000 to the expanded program of technical assistance, much of which is carried out by the Specialized Agencies with funds allocated for the purpose by the parent body. In the period under review progress was made towards the establishment of two new Agencies—the Intergovernmental Maritime Consultative Organization (IMCO) and the Organization for Trade Co-operation.

Trusteeship Council.—The functions of the United Nations with regard to trusteeship agreements for Trust Territories are exercised with the assistance of the Trusteeship Council which supervises administration of the Trust Territories. At its three sessions

held in the year under review, the Council studied the political, economic, social and educational conditions of the Territories on the basis of the annual reports of the administering States and petitions from the Territories themselves, dealt with a number of specific questions referred to it by the General Assembly and made recommendations to the administering States. The report of a United Nations Visiting Mission to the Trust Territories in East Africa, the seventh of its kind appointed by the Council since it came into being in 1947, was approved at the Council's fifteenth session early in 1955, and a "periodic visiting mission" to Territories in West Africa was named. Canadian policy on matters of Trusteeship before the United Nations General Assembly is governed by a careful weighing, within the provisions of the United Nations Charter, of the responsibilities, rights and aspirations of both the administering States and the indigenous populations. To date Canada has not been elected to the Trusteeship Council.

International Court of Justice.—To "adjust and settle international disputes in conformity with justice and international law" is one of the purposes of the United Nations and it was therefore essential to establish a judicial arm for the Organization. The Statute of the International Court of Justice is an integral part of the Charter of the United Nations. During 1954-55 San Marino, Japan, West Germany and Italy—although non-members of the United Nations—became parties to the Statute of the Court. All members of the Organizations are automatically parties to the Statute. The Court is composed of fifteen judges who are elected in individual capacities. Mr. John E. Read of Canada has been a judge of the Court since 1946.

Secretariat.—The Secretariat operates the administrative machinery of the United Nations. At the ninth session of the General Assembly Canada and a majority of other members approved plans of the Secretary-General for reorganizing the Secretariat. The Secretary-General's proposals included a reduction of 284 posts in the headquarters establishment and a number of important structural changes in the supervisory ranks of the Secretariat. The changes were expected to result in savings and increased efficiency. At the ninth session approval was given for establishment of a procedure for dealing with appeals from decisions of the Administrative Tribunal which considers applications alleging non-observance of contracts of employment of staff members or of their terms of appointment.

Subsection 3.—Canada and the North Atlantic Treaty

Within less than two years of the end of World War II in 1945 and the establishment of the United Nations hopes of a lasting peace gave place to growing anxiety. The United Nations Security Council, which had been given responsibility for maintaining world-wide security, was deliberately prevented by the USSR representatives from fulfilling this function. The Soviet Union maintained its armed forces after the War at a level that insured to itself a preponderance of military strength in Europe. The Soviet Government blocked attempts by the Western Powers to reach a peace settlement in Europe and communist parties were used as an instrument of Soviet policy to sabotage Western European efforts at economic recovery and political co-operation. Under these circumstances, the countries of the Atlantic community felt themselves in grave peril of Soviet aggression and communist subversion and they therefore took special collective measures under the United Nations Charter to maintain peace. The Prime Minister of Canada was one of the first to foresee this development. In 1947, when Secretary of State for External Affairs, he said before the United Nations General Assembly that nations might be forced to seek greater safety "in an association of democratic, peace-loving states willing to accept more specific international obligations in return for a greater measure of national security".

The first step in this direction was taken in the spring of 1948 when Belgium, France, Luxembourg, the Netherlands and the United Kingdom signed the Brussels Treaty establishing Western Union. On Apr. 4, 1949 as a result of negotiations between these

countries, Canada and the United States, the North Atlantic Treaty was signed at Washington, D.C. This Treaty was accepted by all major groups of opinion in Canada and was passed without a single dissenting vote in Parliament.

The original signatories of the Treaty were Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, Netherlands, Norway, Portugal, the United Kingdom and the United States. In September 1951 it was agreed that Greece and Turkey should be invited to accede to the Treaty and they were admitted in February 1952. In October 1954 a protocol to the North Atlantic Treaty inviting the Federal Republic of Germany to join NATO was approved together with related arrangements which provided for the establishment of a Western European Union (composed of the Brussels Powers, the German Federal Republic and Italy) and for the restoration of full sovereignty to the German Federal Republic. These measures, designed to bring the German Federal Republic into close and enduring association with the Atlantic Community of free nations, were adopted following the failure of the European Defence Community Treaty which was rejected by the French Assembly in August 1954. On May 6, 1955 the Federal Republic of Germany deposited in Washington its instrument of accession to the North Atlantic Treaty and thus joined NATO as its fifteenth member.

The North Atlantic Treaty and the Organization.—The terms of the Treaty and the organization of the Council and subordinate committees are dealt with in the 1954 Canada Year Book, pp. 113-115.

Developments 1954-55.*—The North Atlantic Council continued in permanent session at Paris under the chairmanship of the Secretary-General, Lord Ismay. Mr. L. D. Wilgress remained the Permanent Representative of Canada to the Council in 1954-55. Besides the regular meetings of the Permanent Representatives, the Council met in Ministerial Session in Paris, France in October and December 1954 and in May 1955.

The October meeting which was attended by Foreign Ministers and Defence Ministers of member countries was called to approve arrangements designed to bring about the full association of the Federal Republic of Germany with the West, and a German defence contribution. The Council approved a resolution to reinforce the existing machinery for the collective defence of Europe, chiefly by strengthening the powers of the Supreme Allied Commander Europe. It also approved a Protocol to the North Atlantic Treaty inviting the Federal Republic of Germany to join NATO.

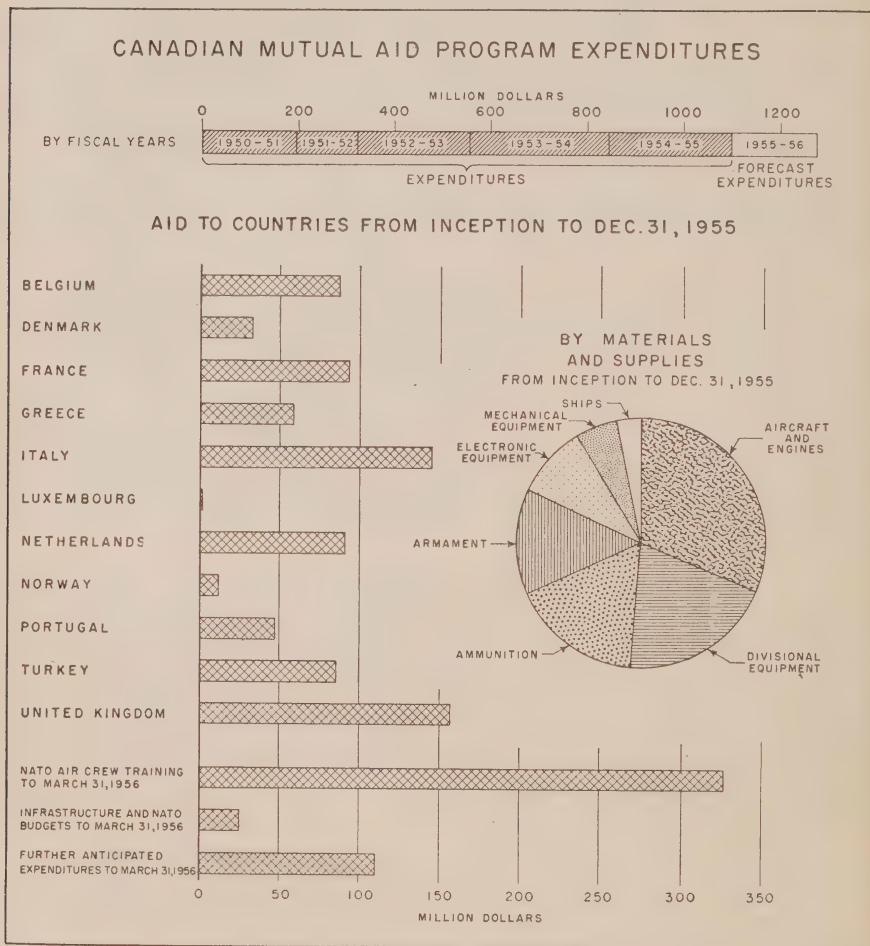
At the December meeting the Council reaffirmed its will to continue to build for peace on solid foundations of unity and strength. Reviewing the defence program of the member countries it recognized that the level of forces, which had increased in strength during the past year, should be maintained as planned. On the basis of recommendations in the Annual Review for 1954 and recognizing that it would be necessary for member countries to support over a long period forces which, by their balanced quality and efficiency, would be a major factor in deterring aggression, the Council adopted firm force goals for 1955, provisional goals for 1956 and planning goals for 1957 with provision for further improvements in training, equipment and effectiveness. The Council also recorded its opinion that the German defence contribution under the Paris Agreements remained an indispensable addition to the defence effort of the West.

The meeting in May 1955 was attended by the Foreign Ministers of member governments and its primary purpose was to mark the entry into NATO of the Federal Republic of Germany and to provide an opportunity for a more comprehensive examination than usual of international political problems of common concern to the alliance. These discussions showed the great value of the Council as a forum for political consultation which enables the member governments to develop their policies on the basis of common principles. The Ministers resolved to continue the policies heretofore followed in building and maintaining the strength and unity of the West, though they welcomed the proposed negotiations with the Soviet Union to find means for resolving outstanding issues.

* June 1, 1954 to May 31, 1955.

Canadian Contributions to NATO.—Canada continued in 1954-55 to support NATO with contributions of armed forces to the unified NATO commands, with end-item assistance to other NATO countries and with financial contributions to common budgets.

The 1st Canadian Infantry Brigade which is stationed in the Soest area of Germany kept its place in Europe alongside the forces of Canada's allies. It is expected that on completion of its two year tour of duty towards the end of 1955 the 1st Brigade will be replaced by the 2nd Canadian Infantry Brigade. The Canadian air contribution of 12 jet fighter squadrons to SACEUR remained unchanged. The Royal Canadian Navy had 43 ships earmarked for the defence of the Canada-United States area and for the protection of convoys under the control of SACLANT.



Between Apr. 1, 1950 and Mar. 31, 1955 arrangements under the Canadian Mutual Aid Program provided for the transfer by Canada of military aid to the non-North American members of NATO to the extent of an estimated total of \$1,100,400,000. The main elements in the program are: (a) training in Canada of aircrew for other NATO countries; (b) transfers of equipment from service stocks or from current production for the Services; (c) direct transfers of equipment from current production; (d) contributions

towards infrastructure programs and NATO budgets. By Dec. 31, 1954, under the NATO aircrew training program, a total of 1,297 pilots and 2,009 navigators from Belgium, Denmark, France, Italy, the Netherlands, Norway, Portugal and the United Kingdom had graduated from training establishments in Canada. An additional 989 trainees were currently undergoing training in early 1955. For 1954-55, Parliament was asked to approve an appropriation of \$257,400,000 for Mutual Aid.

Canada's forecast share of the cost of NATO common infrastructure program for the year ended Mar. 31, 1955 was \$11,500,000. Total Canadian expenditure for NATO Headquarters budgets during the same year was expected to amount to \$1,500,000.

Subsection 4.—Canada and the Colombo Plan

The Colombo Plan for Co-operative Economic Development in South and South East Asia was conceived at the Commonwealth Meeting on Foreign Affairs held at Colombo, Ceylon, Jan. 9-14, 1950. Although the Colombo Plan was initiated by Commonwealth governments it is not exclusively a Commonwealth program. It is designed to assist in the economic development of all countries and territories in the general area of south and southeast Asia.

The Consultative Committee, an intergovernmental body, which meets from time to time to review the progress of the Colombo Plan and to consider policy matters in connection with its implementation, now counts as members Australia, Burma, Cambodia, Canada, Ceylon, India, Indonesia, Japan, Laos, Nepal, New Zealand, Pakistan, the Philippines, Thailand, the United Kingdom (and its territories in the area, such as Malaya, Singapore and Sarawak) and Vietnam, as well as the United States which is also engaged in a substantial program of economic aid in the same region. To develop the technical assistance side of the Plan, a Council for Technical Co-operation has been set up at Colombo, on which Canada is represented. The Technical Co-operation Program though an integral part of the Colombo Plan is designed to supplement the technical assistance activities of the United Nations and the Specialized Agencies in the area.

Up to Mar. 31, 1955 the Canadian Parliament approved annual contributions totalling approximately \$128,000,000 for capital and technical assistance to governments in south and southeast Asia.

Capital assistance has so far been provided to India, Pakistan and Ceylon. The Canadian contribution has consisted primarily of direct assistance to various development projects (e.g., equipment for multi-purpose irrigation and electricity projects, transportation equipment, fishing boats and surveys of resources). It has also included goods required in these countries which the recipient governments have been able to use as a means of raising some of the money needed to meet local costs of development programs (e.g., wheat, flour, copper, aluminum and railway equipment). Canadian aid has been helping these countries in both ways, to develop their economies and raise their standards of living.

Under the Technical Assistance Program up to Mar. 31, 1955 about 259 persons from many countries in the area had been received for training in Canada in a great variety of technical fields and 77 Canadian experts had been employed for service in Colombo Plan countries in such fields as fisheries, refrigeration, marine biology, agriculture, soil erosion, vocational training, accountancy and the maintenance of tractors and agricultural machinery. Equipment for technical training in various fields had also been supplied.

The Consultative Committee on the Colombo Plan held its annual meeting in Ottawa in October 1954. The Canadian delegation was led by the Hon. Walter Harris, Minister of Finance. A published Report* outlines the progress made up to that point and indicates the plans for the future. It contains separate sections describing the activities of each member of the Colombo Plan as either contributing or receiving countries.

The next meeting of the Consultative Committee was scheduled for Singapore in the autumn of 1955.

* *Report of the Colombo Plan for Co-operative Economic Development in South and South East Asia.* Obtainable from the Queen's Printer, Ottawa. Price 50 cents.

CHAPTER III.—POPULATION*

CONSPECTUS

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NOTE.—*The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.*

This Chapter presents only a summary of the voluminous data recorded by the Census. More detailed information and extended analyses are published in the Census volumes and reports which are obtainable from the Queen's Printer or the Dominion Bureau of Statistics, Ottawa. A list of such publications and their prices is available on request.

Section 1.—History of the Census

In 1666 Talon, the Intendant of New France, took an official census of the colony for the purpose of measuring the increase in population that had taken place since the founding of Quebec by Champlain in 1608. Thus to that primitive St. Lawrence colony belongs the credit for the first census of population in the modern meaning of the term and the institution of what is today one of the principal instruments of public administration in every civilized community. That enumeration, which recorded a total of 3,215 persons, included the name, age, sex, marital status and occupation of each person in his place of abode. The great Intendant himself carried out a considerable part of the enumeration, "visiting from door to door all the habitations of Mont Réal, Trois Rivières, Cap-de-la-Madeleine, and all places above Quebec". The following year, 1667 the census was repeated and to the same inquiries were added the areas under cultivation and the numbers of cattle and sheep.

Censuses of New France were taken no less than thirty-seven times in all during the period 1666 to 1739, as well as nine partial censuses and many more enumerations from that date to the end of the French régime in 1763. The scope of the census widened even during this early period. Each census brought a few new inquiries until at the end of the French period the census ascertained, along with the original information, the areas under cultivation and under pasture, the production of wheat, barley, oats, peas, corn, flax, hemp, tobacco and the number of horses, cattle, sheep and swine. In addition the numbers of public buildings, churches, grist mills and sawmills were recorded and the numbers of firearms and swords.

* Revised in the Census (Demography) Division, Dominion Bureau of Statistics.

The chief sources of statistics for the first half-century of British occupation were sporadic reports prepared by the colonial governors though censuses of different sections were taken at irregular intervals. There was a census of Canada in 1765 and others in 1784 and in 1790. Censuses of Upper Canada (Ontario) were taken on an annual basis from 1824 to 1842 and for Lower Canada (Quebec) censuses were taken in 1825, 1827, 1829, 1831, 1832, 1842 and 1844. During this period, censuses of New Brunswick, Nova Scotia, the Assiniboine and the Red River District (Manitoba) were also fairly frequent.

The Census Act passed Sept. 18, 1841 was the first legislative attempt to institute a policy of regular census taking. It provided for a census in the year 1842 and every fifth year thereafter but under this Act only a census of Upper Canada was taken. Subsequent legislation provided for a census of Lower Canada in 1842 and a census of the two Provinces in 1848 and 1850. However the Act which provided most effectively for the taking of a periodical census was passed in 1851 and the censuses of 1851-52 and 1861 were carried out under it. In the same years censuses of Nova Scotia and New Brunswick were also taken so that the present decennial census may be said to date from 1851.

The first census following Confederation, that of 1871, was taken under a new Act passed in 1870, an amendment to which in 1879 provided for the taking of a census in 1881 and in every tenth year thereafter. Such decennial censuses have been taken and as the country has progressed economically and government and business administration has become more complex the scope of each successive enumeration has increased. The present legislative authority for the taking of the census is the Statistics Act (R.S.C. 1952, c. 257 and amendment).

The original legal *raison d'être* of the census was to determine representation in the Federal House of Commons. Under the British North America Act it was provided that the first rearrangement of seats in the House should be made on completion of the Census of 1871, a similar readjustment to follow every subsequent decennial census. (The application of the census to this problem is dealt with at pp. 73-74.) But the census of today has far wider uses than to determine electoral representation, important as that purpose is. It constitutes in fact nothing less than a periodical stock-taking of the people—their numbers, geographical distribution, ages, marital status, place of birth, nationality, origin, language, schooling, occupations, earnings, family composition, housing conditions, and so forth. Census data on the population are useful in determining provincial subsidy payments, school grants and other forms of public expenditure where amounts paid are on a per capita basis. Simple counts of the population are also essential in calculating birth, death and marriage rates, production and consumption rates, and many other per capita measures. Census population counts also serve as benchmarks in the making of intercensal estimates of population. At each level of government population figures from the census are regarded as official counts of numbers of persons living in provinces, cities, towns, villages, etc.

Statistics on such characteristics of the population as age, marital status, language, occupation, etc., likewise serve a variety of uses. Age figures for example are required in estimating the costs of social security measures such as family allowances and old age pensions, in estimating schooling needs, in producing life tables, and for a variety of purposes in the study of social and economic problems. Marital status statistics from the census are used to compare the incidence of various diseases among single and married persons, to estimate the proportion of married women in the labour force, to determine the changes taking place in the number of widowed and divorced persons in Canada. Statistics on language and mother tongue are useful to educational authorities, advertising agencies and the foreign language press in the publication and distribution of information in various languages.

Occupation statistics are of value to vocational counsellors in technical schools and employment offices. They are of interest to firms wishing to know what occupational skills may be found in localities where they may be planning to establish branch plants. These examples serve to illustrate the many uses to which population statistics from the census may be put. Similarly, statistics from the censuses of agriculture and housing are of value in the solution of economic and social problems, as well as for more immediate administrative purposes.

The ninth Decennial Census of Canada in 1951 was one of the most significant in the country's history. Coming at the mid-point of the century, it provided a means of measuring Canada's development during the first half of the century. Following a decade of great international upheavals—World War II and the immediate postwar adjustment period—it reflected the widespread economic and social changes that occurred during that period. With the union of Newfoundland and Canada in 1949 it represented Canada's first census since becoming a nation of ten provinces. The coverage of that Census is shown in the following table.

1.—Statistical Summary of the Leading Enumerations of the 1951 Census

Province or Territory	Population	Occupied Dwellings ¹	Occupied Farms		Merchandising and Service Establishments			Fishing Enterprises
			Farms	Area	Retail Trade	Wholesale Trade	Service	
	No.	No.	No.	sq. miles	No.	No.	No.	No.
Newfoundland.....	361,416	70,980	3,626	133	4,090	281	650	9,300
Prince Edward Island.....	98,429	22,454	10,137	1,711	972	157	367	1,140
Nova Scotia.....	642,584	149,555	23,515	4,959	7,176	740	2,050	6,300
New Brunswick.....	515,697	114,007	26,431	5,422	5,430	568	1,600	3,040
Quebec.....	4,055,681	858,784	134,336	26,229	43,572	5,165	16,501	3,010
Ontario.....	4,597,542	1,181,126	149,920	32,625	50,119	6,512	20,540	960
Manitoba.....	776,541	202,398	52,383	27,704	7,432	2,370	3,117	
Saskatchewan.....	831,728	221,456	112,018	96,349	9,585	4,526	3,771	2,340
Alberta.....	939,501	250,747	84,315	69,468	9,943	3,695	4,227	
British Columbia.....	1,165,210	337,777	26,406	7,347	13,151	2,137	5,848	3,750
Yukon and N.W.T.....	25,100	..	4	1	156	16	77	2
Canada.....	14,009,429	3,409,284	623,091	271,948	151,626	26,167	58,748	29,800

¹ Exclusive of hotels, institutions, camps and large lodging houses.

² Included with the Prairie Provinces.

The modern census has become a highly complex administrative and technical operation. Each enumeration has shown a considerable advance over its predecessor in planning, organization, enumeration and processing, as well as in coverage. The 1951 Census marked the introduction of many new techniques—a number of processing operations were decentralized and were performed for the first time in the Bureau of Statistics regional offices located across Canada; mark-sense equipment was used in conjunction with high-speed electronic tabulating machines; and specialized printing processes were employed to speed the release of published reports and volumes. The results of the 1951 Census of Canada are now for the most part contained in the printed record* which will form an important source of reference for many years to come.

In addition to the decennial enumerations for the whole of Canada the spectacular growth of the midwest starting in the 1880's and continuing into the present century necessitated the securing of more frequent population and agricultural information for that portion of the country. In 1886, midway between the decennial censuses, a special census of Manitoba and the then North-West Territories was taken. This was repeated for Manitoba alone in 1896 and in every succeeding ten year period a similar census included Saskatchewan and Alberta which were created provinces in 1905. Legislative authority

* *Ninth Census of Canada 1951*, XI Vols. \$25, Queen's Printer or Dominion Bureau of Statistics, Ottawa.

for these censuses was passed in 1886 for Manitoba and in 1905 for Saskatchewan and Alberta and later embodied in the Statistics Act. The need for this partial census is now not so apparent and provision has been made for its place to be taken by a modified census of population and agriculture for the whole of Canada. Such a census is being taken in 1956.

Section 2.—Growth of the Population

The population history of Canada, from the first census in 1666 when 3,215 persons were enumerated to the 1951 Census when the figure was 14,009,429, reveals an outstanding rate of population growth. Each decade of course contributed to this growth but the ten year periods 1901-11, 1911-21 and 1941-51 merit particular mention. In the decade 1901-11 Canada's population increased by 34·2 p.c., the largest growth in the nation's history. Immigration was the main factor in this gain, 1,800,000 persons having entered the country during the period. Despite World War I with its accompanying population losses through casualties, emigration and the influenza epidemic Canada's population increased by 21·9 p.c. in the 1911-21 decade.

The Census of 1951 showed the population of Canada to be 14,009,429 representing an increase of 2,502,774 or 21·8 p.c. over the 1941 figure of 11,506,655. Newfoundland's entry into Confederation accounted for 361,416 of this increase. Excluding Newfoundland the population in 1951 totalled 13,648,013, an increase of 2,141,358 or 18·6 p.c. over the 1941 population of the nine provinces and the territories. This numerical increase was the largest on record and the percentage increase was exceeded only in the 1901-11 and 1911-21 decades. The population increase in the 1941-51 decade is all the more remarkable when consideration is given to the fact that immigration was greatly restricted during the war years. With the resumption of immigration in the postwar years however Canada had a net gain of about 424,000 in population through immigrant arrivals over the decade. The period was characterized also by high birth rates, and the natural increase was just under 2,000,000 for the ten year period.

2.—Numerical and Percentage Distribution of Population by Province, Decennial Census Years 1871-1951

NOTE.—The populations of the Prairie Provinces in 1906, 1916, 1926, 1936 and 1946 are shown in the 1951 Year Book, p. 131. Intercensal estimated populations from 1867-1904 will be found in the 1936 Year Book, p. 141; from 1905-30 in the 1946 edition, p. 127; from 1931-40 in the 1952-53 edition, p. 143; and from 1941-54 in Table 3, p. 151 of the present edition.

Province or Territory	1871	1881	1891	1901	1911	1921	1931	1941	1951
NUMERICAL DISTRIBUTION									
Nfld.....	1	1	1	1	1	1	1	1	361,416
P.E.I.....	94,021	108,891	109,078	103,259	93,728	88,615	88,038	95,047	98,429
N.S.....	387,800	440,572	450,396	459,574	492,338	523,837	512,846	577,962	642,584
N.B.....	285,594	321,233	321,263	331,120	351,889	387,876	408,219	457,401	515,697
Que.....	1,191,516	1,359,027	1,488,535	1,648,898	2,005,776	2,360,510	2,874,662	3,331,882	4,055,681
Ont.....	1,620,851	1,926,922	2,114,321	2,182,947	2,527,292	2,933,662	3,431,683	3,787,655	4,597,542
Man.....	25,228	62,260	152,506	255,211	461,394	610,118	700,139	729,744	776,541
Sask.....	...	...	...	91,279	492,432	757,510	921,785	895,992	831,728
Alta.....	...	...	...	73,022	374,295	588,454	731,605	796,169	939,501
B.C.....	36,247	49,459	98,173	178,657	392,480	524,582	694,263	817,861	1,165,210
Yukon.....	...	...	...	27,219	8,512	4,157	4,230	4,914	9,096
N.W.T.....	48,000	56,446	98,967	20,129	6,507	8,143	9,316	12,028	16,004
Canada.....	3,689,257	4,324,810	4,833,239	5,371,315	7,206,643	8,787,949	10,376,786	11,506,655	14,009,429

¹ Populations of Newfoundland (which was not part of Canada until 1949) were: 1871, 152,500 (estimated); 1881, 186,500 (estimated); 1891, 202,040; 1901, 220,984; 1911, 242,619; 1921, 263,033; 1931, 281,500 (estimated); 1941, 303,300 (estimated); and 1945, 321,819.

² Includes 485 members of the Royal Canadian Navy recorded separately in 1921.

**2.—Numerical and Percentage Distribution of Population by Province,
Decennial Census Years 1871-1951—concluded**

Province or Territory	1871	1881	1891	1901	1911	1921	1931	1941	1951
	PERCENTAGE DISTRIBUTION								
Nfld.	...	...	...	...	...	...	...	...	2-58
P.E.I.	2-55	2-52	2-25	1-92	1-30	1-01	0-85	0-83	0-70
N.S.	10-51	10-19	9-32	8-56	6-83	5-96	4-94	5-02	4-59
N.B.	7-74	7-43	6-65	6-16	4-88	4-41	3-94	3-97	3-68
Que.	32-30	31-42	30-80	30-70	27-83	26-86	27-70	28-96	28-95
Ont.	43-94	44-56	43-74	40-64	35-07	33-39	33-07	32-92	32-82
Man.	0-68	1-44	3-16	4-75	6-40	6-94	6-75	6-34	5-54
Sask.	...	...	...	1-70	6-84	8-62	8-88	7-79	5-94
Alta.	...	...	...	1-36	5-19	6-70	7-05	6-92	6-71
B.C.	0-98	1-14	2-03	3-33	5-45	5-97	6-69	7-11	8-32
Yukon.	...	...	...	0-51	0-12	0-05	0-04	0-04	0-06
N.W.T.	1-30	1-30	2-05	0-37	0-09	0-09	0-09	0-10	0-11
Canada	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00	100-00

Section 3.—Intercensal Estimates and Movement of Population

Intercensal estimates of the population have many uses. They constitute a base for vital statistics rates, per capita figures of production and trade, and other analyses. More recently they have proved useful for estimates of labour force and other population characteristics of data collected in sample surveys.

Estimates are constructed in the first place for the total population of Canada and for each province. It is a requirement that these be made available about the date to which they apply, June 1 of each year. As final figures on the components of population changes are not ready at that date the numbers of births, deaths and immigrants are partly filled in by extrapolation so that a preliminary figure is secured for the June to May interval. To avoid a cumulative error the calculation in effect starts anew with the latest preceding census for each year's estimates and uses the most up-to-date figures then available. To the census figures are added the births of the intervening years and the deaths are subtracted. Immigrants are added and emigrants are subtracted. On the last item of this calculation there is least information; it is possible to ascertain from United States immigration figures the number of Canadians entering the United States and sometimes the number of those going to the United Kingdom but data are not available for other countries.

The program of population estimates calls for two figures to be given in respect of each year: one based on preliminary data as described above, necessarily involving an extrapolation of birth, death and immigration returns, and the other on final figures subject to no further change. The latter can be made available only when the last item of information has been secured and this last item is the succeeding decennial census. With the release of the 1951 Census totals, the estimates were revised for the decade 1941-51.

Since estimates for successive years are independently calculated back to the latest census, the best estimate of the balance of population change is not obtained by subtracting the figure for one year from that for the year following. Much interest attaches to the year-to-year balance and the following statement is presented, which gives all available data on that point.

Year	Calendar Year Data ¹				Estimated Population as at June 1 ¹
	Births	Deaths	Natural Increase	Immi- gration	
1941.....	255,317	114,639	140,678	9,329	11,490,000
1942.....	272,313	112,978	159,335	7,576	11,637,000
1943.....	283,580	118,635	164,945	8,504	11,778,000
1944.....	284,220	116,052	168,168	12,801	11,929,000
1945.....	288,730	113,414	175,316	22,722	12,055,000
1946.....	330,732	114,931	215,801	71,719	12,268,000
1947.....	359,094	117,725	241,369	64,127	12,527,000
1948.....	347,307	119,384	227,923	125,414	12,799,000
1949 ¹	366,139	124,047	242,092	95,217	13,423,000
1950.....	371,071	123,789	247,282	73,912	13,688,000
1951.....	380,101	125,454	254,647	194,391	13,984,000
1952.....	402,527	125,950	276,577	164,498	14,405,000 ²
1953.....	416,825	127,381	289,444	168,868	14,756,000 ²
1954.....	435,142	124,520	310,622	154,227	15,168,000 ²

¹ Exclusive of the Yukon and Northwest Territories. Newfoundland included from 1949.

² Subject to adjustment as later data are made available.

3.—Estimates of Population by Province, Intercensal Years 1941-55

NOTE.—At every census the previous post-censal estimates, made at June 1 each year, are adjusted to the newly recorded population figures. Figures for all provinces for 1941 and 1951 and for the Prairie Provinces for 1946 are census figures. Figures for 1867-1904 will be found in the 1936 Year Book, p. 141, for 1905-30 in the 1946 edition, p. 127, and for 1931-40 in the 1952-53 edition, p. 143.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Canada ¹
	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000
1941.....	...	95	578	457	3,332	3,788	730	896	796	818	5	12	11,507
1942.....	...	90	591	464	3,390	3,884	724	848	776	870	5	12	11,654
1943.....	...	91	606	463	3,457	3,915	723	838	755	900	5	12	11,795
1944.....	...	91	611	461	3,500	3,963	727	836	808	932	5	12	11,946
1945.....	...	92	619	467	3,560	4,000	727	833	808	949	5	12	12,072
1946.....	...	94	608	478	3,629	4,093	727	833	803	1,003	8	16	12,292
1947.....	...	94	615	488	3,710	4,176	739	836	825	1,044	8	16	12,551
1948.....	...	93	625	498	3,788	4,275	746	838	854	1,082	8	16	12,823
1949.....	345	94	629	508	3,882	4,378	757	832	885	1,113	8	16	13,447
1950.....	351	96	638	512	3,969	4,471	768	833	913	1,137	8	16	13,712
1951.....	361	98	643	516	4,056	4,598	776	832	939	1,165	9	16	14,009
1952.....	374	103	653	526	4,174	4,766	798	843	970	1,198	9	16	14,430
1953.....	383	106	663	536	4,269	4,897	809	861	1,002	1,230	9	16	14,781
1954.....	398	105	673	547	4,388	5,046	828	878	1,039	1,266	10	17	15,195
1955.....	412	108	683	558	4,520	5,183	849	889	1,066	1,305	10	18	15,601

¹ Estimates for Newfoundland prior to union with Canada which took place on Mar. 31, 1949 are not included in Canada totals.

Table 4 shows the natural increase and the total population increase according to the Census for Canada and the provinces in the 1931-41 and 1941-51 decades. The difference between the natural increase and the total increase in population during a decade represents the difference between inward and outward movements, i.e., net migration. The net migration data shown for provinces indicate the net movement of population arising partly from interchange of population between provinces and partly from persons entering and leaving the country.

The traditional movement of population on the North American Continent from east to west has not been apparent in Canadian statistics for recent years. The most spectacular changes are shown in the Prairie Provinces and in British Columbia. The three Prairie Provinces lost by migration about 250,000 people between 1931 and 1941

and somewhat more from 1941 to 1951. British Columbia gained at the rate of about 8,000 a year during the 1930's and at about 23,000 a year during the 1940's. On an absolute basis Ontario received more people than British Columbia but in relation to its larger population this growth was only one-third as important; Quebec's net change was negligible relative to its population; Nova Scotia gained during the 1930's but lost in the 1940's, the Maritime Provinces as a whole losing considerably over the two decades.

4. Numerical Changes in the Population of the Provinces through Migration 1931 to 1941 and 1941 to 1951

Province	Natural Increase		Population Increase according to Census		Net Migration	
	1931-41	1941-51	1931-41	1941-51	1931-41	1941-51
Prince Edward Island.....	9,681	15,802	7,009	3,382	-2,672	-12,420
Nova Scotia.....	57,268	103,512	65,116	64,622	+7,848	-38,890
New Brunswick.....	59,359	99,904	49,182	58,296	-10,177	-41,608
Quebec.....	459,211	736,058	457,220	723,799	-1,991	-12,259
Ontario.....	278,488	505,034	355,972	809,887	+77,484	+304,853
Manitoba.....	78,083	107,510	29,605	46,797	-48,478	-60,713
Saskatchewan.....	131,752	135,106	-25,793	-64,264	-157,545	-199,370
Alberta.....	106,405	150,303	64,564	143,332	-41,841	-6,971
British Columbia.....	41,100	116,527	123,593	347,349	+82,498	+230,822
Canada¹	1,221,787	1,972,394	1,129,869	2,141,358	-91,918	+168,964

¹ Excludes Newfoundland but includes the Yukon and Northwest Territories.

Section 4.—Density of Population

The land area and density of the population per square mile is given by province in Table 5 for the census years 1921-51. It will be noted that the figures for 1951 include the Province of Newfoundland and this fact should be kept in mind in comparisons with earlier censuses.

5.—Land Areas and Density of Population by Province, Decennial Census Years 1921-51

Province or Territory	Land Area in Sq. Miles	Population, 1921		Population, 1931		Population, 1941		Population, 1951	
		Total	Per Sq. Mile	Total	Per Sq. Mile	Total	Per Sq. Mile	Total	Per Sq. Mile
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland ¹	147,994	...	...	...	...	...	...	361,416	2.44
Prince Edward Island.....	2,184	88,615	40.57	88,038	40.31	95,047	43.52	98,429	45.07
Nova Scotia.....	20,743	523,837	25.25	512,846	24.72	577,962	27.86	642,584	30.98
New Brunswick.....	27,473	387,876	14.12	408,219	14.86	457,401	16.65	515,697	18.77
Quebec.....	523,860	2,360,510	4.51	2,874,662	5.49	3,331,882	6.36	4,055,681	7.74
Ontario.....	348,141	2,933,662	8.43	3,431,683	9.86	3,787,655	10.88	4,597,542	13.21
Manitoba.....	219,723	610,118	2.78	700,139	3.19	729,744	3.32	776,541	3.53
Saskatchewan.....	220,182	757,510	3.44	921,785	4.19	895,992	4.07	831,728	3.78
Alberta.....	248,800	588,454	2.37	731,605	2.94	796,169	3.20	939,501	3.78
British Columbia.....	359,279	524,582	1.46	694,263	1.93	817,861	2.28	1,165,210	3.24
Canada (Exclusive of the Territories) ...	2,118,379	8,775,164	4.45²	10,363,240	5.26²	11,489,713	5.83²	13,984,329	6.60³
Yukon Territory.....	205,346	4,157	0.02	4,230	0.02	4,914	0.02	9,096	0.04
Northwest Territories..	1,253,438	8,143	0.01	9,316	0.01	12,028	0.01	16,004	0.01
Canada	3,577,163	8,787,949⁴	2.56⁵	10,376,786	3.03⁵	11,506,655	3.36⁵	14,009,429	3.92³

¹ Includes Labrador. ² Calculated on the basis of 1,970,385 sq. miles which excludes the land area of Newfoundland. ³ Includes Newfoundland. ⁴ Total includes 435 members of the Royal Canadian Navy recorded separately in 1921. ⁵ Calculated on the basis of 3,429,169 sq. miles which excludes the land area of Newfoundland.

Section 5.—Rural and Urban Population

Before 1951 the population residing within the boundaries of all incorporated cities, towns and villages of a province was classified by the Census as urban and the remainder as rural. Since the laws governing incorporation vary among provinces there was no uniform line of demarcation between the rural and urban population throughout Canada. In the 1951 Census the aggregate number of residents within a given area rather than provincial legal status was the main criterion for the rural-urban classification. The population residing in cities, towns and villages of 1,000 or over, whether incorporated or unincorporated, as well as the population of all parts of census metropolitan areas, was defined as urban and that outside such localities as rural.

Table 6 presents the rural and urban population, by province or territory, for 1951. The rural is further classified by farm and non-farm residence and the urban by size of locality.

6.—Rural Population classified by Farm and Non-farm and Urban Population classified by Size Group by Province, Census 1951

Province or Territory	Rural			Urban				
	Farm ¹	Non-farm	Total	1,000 to 9,999	10,000 to 29,999	30,000 to 99,999	100,000 or Over	Total ²
	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland	15,456	191,165	206,621	100,375	—	52,873	—	154,795
Prince Edward Island.....	46,757	26,987	73,744	8,798	15,887	—	—	24,685
Nova Scotia.....	112,135	185,618	297,753	166,121	61,802	116,906	—	344,831
New Brunswick.....	145,771	154,915	300,686	86,906	76,430	50,779	—	215,011
Quebec.....	766,910	591,453	1,358,363	750,436	504,523	247,548	1,185,536	2,697,318
Ontario.....	678,043	668,400	1,346,443	714,343	463,404	764,448	1,307,751	3,251,099
Manitoba.....	214,435	122,526	336,961	93,965	109,036	—	235,710	439,580
Saskatchewan.....	398,279	180,979	579,258	86,379	41,504	124,587	—	252,470
Alberta.....	339,955	149,871	489,826	120,700	39,311	—	288,691	449,675
British Columbia.....	109,919	261,820	371,739	157,333	180,240	109,707	344,833	793,471
Yukon Territory.....	44	6,458	6,502	2,594	—	—	—	2,594
N.W.T.....	28	13,252	13,280	2,724	—	—	—	2,724
Canada.....	2,827,732	2,553,444	5,381,176	2,290,674	1,492,137	1,466,848	3,362,521	8,628,253

¹ Excludes 84,264 persons living on farms in localities classed as urban, parts with fewer than 1,000 population.

² Includes a few metropolitan area

Section 6.—Population of Counties and Census Divisions

Population totals for counties and census divisions for census years 1901-51 are given in the 1952-53 Year Book, pp. 137-141. Further details, including populations of the subdivisions of counties, may be found in *Ninth Census of Canada 1951*, Vol. I.

Section 7.—Population of Incorporated Urban Centres

The growth of Canadian cities with populations of over 30,000 from 1941 to 1951, together with the years of their incorporation as cities, is shown in Table 7. All incorporated cities, towns and villages having populations of 1,000 or over in 1951 are listed in Table 10.

7.—Incorporated Cities with Populations of over 30,000 at the 1951 Census and Comparable Data for 1941

NOTE.—Incorporated cities in which a Board of Trade exists are indicated by an asterisk (*), and those in which there is a Chamber of Commerce by a dagger (†).

City and Province	Year of Incorporation as City	Population		City and Province	Year of Incorporation as City	Population	
		1941	1951			1941	1951
		No.	No.			No.	No.
*Brantford, Ont.....	1877	31,948	36,727	*Regina, Sask.....	1903	58,245	71,319
*Calgary, Alta.....	1893	88,904	129,060	†St. Catharines, Ont.....	1876	30,275	37,984
†Edmonton, Alta.....	1904	93,817	159,631	*Saint John, N.B.....	1785	51,741	50,779
†Fort William, Ont.....	1907	30,585	34,947	*St. John's, Nfld.....	1888	44,603 ¹	52,873
*Halifax, N.S.....	1841	70,488	85,589	Sarnia, Ont.....	1914	18,734	34,697
†Hamilton, Ont.....	1846	166,337	208,321	*Saskatoon, Sask.....	1906	43,027	53,268
†Hull, Que.....	1875	32,947	43,483	†Sault Ste. Marie, Ont.....	1912	25,794	32,452
†Kingston, Ont.....	1846	30,126	33,459	*Sherbrooke, Que.....	1875	35,965	50,543
*Kitchener, Ont.....	1912	35,657	44,867	*Sudbury, Ont.....	1930	32,203	42,410
†London, Ont.....	1855	78,134	95,343	*Sydney, N.S.....	1904	28,305	31,317
*†Montreal, Que.....	1832	903,007	1,021,520	†Three Rivers, Que.....	1857	42,007	46,074
†Oshawa, Ont.....	1924	26,813	41,545	*Toronto, Ont.....	1834	687,457	675,754
*Ottawa, Ont.....	1854	154,951	202,045	*Vancouver, B.C.....	1886	275,353	344,833
Outremont, Que.....	1915	30,751	30,057	†Verdun, Que.....	1912	67,349	77,391
†Peterborough, Ont.....	1905	25,350	38,272	†Victoria, B.C.....	1862	44,068	51,331
†Port Arthur, Ont.....	1907	24,426	31,161	†Windsor, Ont.....	1892	105,311	120,049
*Quebec, Que.....	1832	150,757	164,016	*Winnipeg, Man.....	1873	221,960	235,710

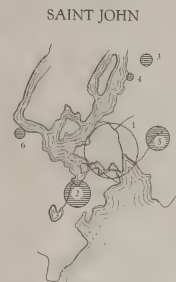
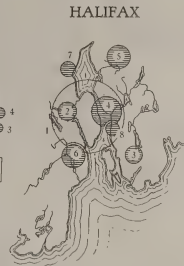
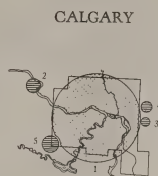
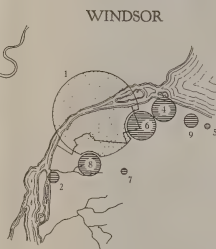
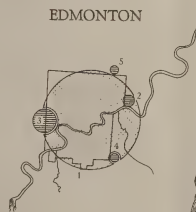
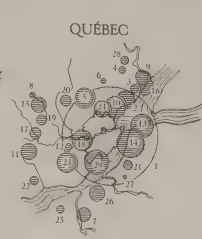
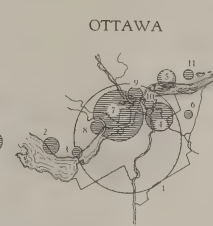
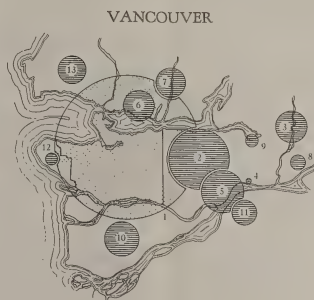
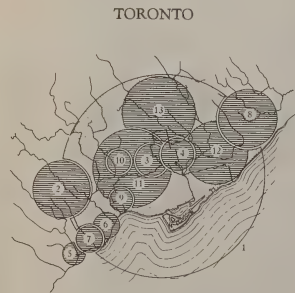
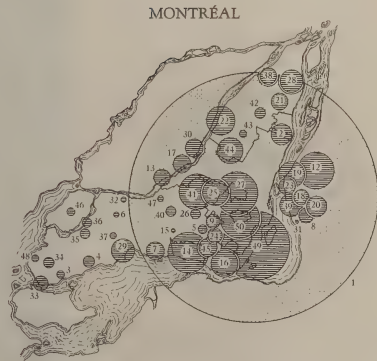
¹ Census taken by the Newfoundland Government in 1945; 1941 figure not available.

For census purposes, metropolitan areas have been established for groups of urban communities that are in close economic, geographic and social relationship. The total population of each of the census metropolitan areas in 1951, with the comparable figure from the 1941 Census covering the same area as in 1951, is shown in Table 8. In this table the metropolitan area has been named after the largest city of each urban group.

8.—Populations of Census Metropolitan Areas 1951 compared with Populations of Same Areas in 1941

Metropolitan Area	Population		Metropolitan Area	Population	
	1941	1951		1941	1951
	No.	No.		No.	No.
Calgary, Alta.....	93,021	139,105	Saint John, N.B.....	70,927	78,337
Edmonton, Alta.....	97,842	173,075	St. John's, Nfld.....	..	67,749
Halifax, N.S.....	98,636	133,931	Toronto, Ont.....	909,928	1,117,470
Hamilton, Ont.....	197,732	259,685	Vancouver, B.C.....	377,447	530,728
London, Ont.....	91,024	121,516	Victoria, B.C.....	75,560	104,303
Montreal, Que.....	1,145,282	1,395,400	Windsor, Ont.....	123,973	157,672
Ottawa, Ont.....	226,290	281,908	Winnipeg, Man.....	299,937	354,069
Quebec, Que.....	224,756	274,827			

THE FIFTEEN METROPOLITAN AREAS* OF CANADA (SHOWING CITY PROPER AND SATELLITE COMMUNITIES), CENSUS OF 1951
 LES QUINZE ZONES MÉTROPOLITAINES* DU CANADA (CITÉ PROPREMENT DITE ET AGGLOMÉRATIONS SATELLITES), RECENSEMENT DE 1951



Note: The populations of the satellite communities are in proportion to the areas of the circles.

Nota: La population des agglomérations satellites est proportionnée à la surface des cercles.

*Metropolitan areas have been established for groups of urban communities in Canada which are in close economic, geographic and social relationship.

*Des zones métropolitaines ont été établies pour certains groupes d'agglomérations urbaines du Canada qui sont en étroites relations économiques, géographiques et sociales.

0 5 10 15 20

Scale of miles for geographic bases

Échelle en milles pour les bases géographiques.

LIST OF SATELLITE COMMUNITIES FOR EACH METROPOLITAN AREA

LISTE DES AGGLOMÉRATIONS SATELLITES POUR CHAQUE ZONE MÉTROPOLITAINE

MONTREAL 1,395,400

1. Montreal, city proper—cité proprement dite	1,021,520
2. Asile-St-Jean-de-Dieu, mun.	6,999
3. Bains d'Uffé, t.-v.	719
4. Beaconsfield, t.-v.	1,888
5. Côte-St-Luc, vl.	1,083
6. Dollard-des-Ormeaux, mun.	3,119
7. Doreville, t.-v.	5,293
8. Greenfield Park, t.-v.	3,379
9. Hampstead, t.-v.	5,260
10. J.-e.-aux-Sœurs, mun.	57
11. Ile Doreville, t.-v.	17
12. Jacques-Cartier, t.-v.	22,450
13. L'Abord-du-Plouffe, t.-v.	4,604
14. Lachapelle, t.-v.	27,773
15. La Présentation-de-la-Ste-Vierge, mun.	278
16. Laval, t.-v.	11,643
17. Laval-des-Rapides, t.-v.	4,998
18. Le Moine, t.-v.	1,078
19. Longueuil, t.-v.	11,101
20. Maskinonge, t.-v.	6,494
21. Montreal E., t.-v.	4,513
22. Montreal N., t.-v.	14,081
23. Montreal S., t.-v.	1,214
24. Montreal W.-O., t.-v.	3,721
25. Mont-Royal, t.-v.	11,152
26. Notre-Dame-de-La-Vis, mun.	1,492
27. Outremont, t.-v.	30,057
28. Pointe-aux-Trembles, t.-v.	8,241
29. Pointe-Claire, t.-v.	8,753
30. Point-Viau, t.-v.	5,129
31. Prevost, t.-v.	104
32. Roxboro, t.-v.	359
33. Ste-Anne-de-Belleuve, t.-v.	3,342
34. Ste-Anne-du-Bout-de-l'Île, mun.	1,603
35. Ste-Genève, mun.	1,436
36. Ste-Genève-de-Pierrefonds, vl.	1,332
37. Ste-Joséphine-de-la-Pointe-Claire, mun.	6,322
38. Ste-Joséphine-de-la-Rivière-des-Prairies, mun.	4,072
39. St-Lambert, t.-v.	5,615
40. St-Laurent, mun.	1,473
41. St-Laurent, t.-v.	20,426
42. St-Léonard-de-Port-Maurice, mun.	1,501
43. St-Léonard-de-Port-Maurice, t.-v.	742
44. St-Michel, t.-v.	10,539
45. St-Pierre, t.-v.	4,976
46. St-Raphaël-de-la-Brière, mun.	968
47. Saraguay, vl.	411
48. Seneville, vl.	878
49. Verdun, t.-v.	77,391
50. Westmount, t.-v.	25,222

TORONTO 1,117,470

1. Toronto, city proper—cité proprement dite	675,754
2. Inglewood, t.-v.	53,779
3. Forest Hill, vl.	15,305
4. Leaside, t.-v.	16,233
5. Long Branch, vl.	8,727
6. Midland, t.-v.	11,342
7. New Toronto, t.-v.	43,483
8. Scarborough, t.-v.	56,292
9. Scarboro, vl.	8,072
10. Weston, t.-v.	8,677
11. York, t.-v.	101,582
12. York E., t.-v.	64,616
13. York N., t.-v.	85,897

VANCOUVER 530,728

1. Vancouver, city proper—cité proprement dite	344,833
2. Burnaby District Municipality	58,376
3. Coquitlam District Municipality	15,697
4. Fraser Mills District Municipality	369
5. New Westminster, t.-v.	28,639
6. North Vancouver, t.-v.	15,687
7. North Vancouver District Municipality	14,469
8. Port Moody, t.-v.	8,232
9. Port Moody, t.-v.	2,246
10. Richmond District Municipality	19,186
11. Surrey District Municipality (pt.—part.)	9,735
12. University Endowment Area	2,120
13. West Vancouver District Municipality	13,990
14. Unorganized—Non organisé	1,951
15. Indian Reserves—Réserves indiennes	198

WINNIPEG 354,069

1. Winnipeg, city proper—cité proprement dite	235,710
2. Assiniboia, mun.	2,663
3. Brooklands, vl.	2,915
4. Charleswood, mun.	3,680
5. Fort Garry, mun.	8,193
6. Kildonan E., mun.	13,144
7. Kildonan N., mun.	3,222
8. Kildonan W.-O., mun.	10,754
9. Old Kildonan, mun.	669
10. St-Boniface, t.-v.	26,342
11. St-James, mun.	19,561
12. St-Vital, mun.	18,637
13. Transcona, t.-v.	6,752
14. Tuxedo, t.-v.	1,627

OTTAWA 281,908

1. Ottawa, city proper—cité proprement dite	202,045
2. Aylmer, t.-v.	4,375
3. Deschênes, vl.	1,169
4. Eastview, t.-v.	13,799
5. Gatineau, t.-v.	5,771
6. Gloucester, t.-v.	1,245
7. Hull, t.-v.	43,483
8. Hull S., mun. (pt.—part.)	2,746
9. Pointe-à-Gatineau, vl.	3,874
10. Rockcliffe Park, vl.	1,595
11. Templeton, vl.	1,717
12. Templeton W.-O., mun. (pt.—part.)	89

QUÉBEC 274,827

1. Québec, city proper—cité proprement dite	164,016
2. Beauport, t.-v.	1,890
3. Beauport E., vl.	1,096
4. Beauport W.-O., mun.	854
5. Charlesbourg, t.-v.	5,734
6. Charlesbourg E., mun.	473
7. Charny, vl.	3,300
8. Chénouan, t.-v.	8,232
9. Coarville, t.-v.	3,148
10. Giffard, vl.	8,097
11. L'Anceigne-Lorette, mun.	4,700
12. La Petite-Rivière, mun.	740
13. Lauzon, t.-v.	9,643
14. Lévis, t.-v.	13,162
15. Loretteville, t.-v.	4,382
16. Montmorency, t.-v.	6,817
17. Notre-Dame-de-Lorette, vl.	2,516
18. Québec W.-O., t.-v.	7,295
19. St-Ambroise-de-la-Joue-Lorette, mun.	1,796
20. St-Charles-de-Charlesbourg, mun.	2,065
21. St-David-de-l'Aube-Rivière, mun.	1,147
22. St-Félix-du-Cap-Rouge, mun.	1,109
23. St-Foy, t.-v.	5,236
24. St-Michel-Archangel, mun.	4,310
25. St-Nicholas, mun.	1,067
26. St-Romuald-d'Étiennette, mun.	4,797
27. St-Télesphore, mun.	232
28. Ste-Thérèse-de-Lisieux, mun.	1,026
29. Sillery, t.-v.	10,376
30. Indian Reserves—Réserves indiennes	703

HAMILTON 239,685

1. Hamilton, city proper—cité proprement dite	208,321
2. Ancaster, t.-v.	5,120
3. Barton, t.-v.	8,482
4. Burlington, t.-v.	6,017
5. Burlington Beach	2,827
6. Dundas, t.-v.	6,846
7. Flamborough E., t.-v.	5,043
8. Flamborough W.-O., t.-v.	2,196
9. Nelson, t.-v.	3,310
10. Saltfleet, t.-v.	8,274
11. Stoney Creek, vl.	1,922
12. Waterdown, vl.	1,347

EDMONTON 174,075

1. Edmonton, city proper—cité proprement dite	169,631
2. Beverly, t.-v.	2,159
3. Jasper Place, t.-v.	9,139
4. Strathcona, mun. (pt.—part.)	1,173
5. Sturgeon, mun. (pt.—part.)	973

WINDSOR 157,672

1. Windsor, city proper—cité proprement dite	120,040
2. La Salle, t.-v.	1,854
3. Oshawa, t.-v.	21
4. Riverside, t.-v.	9,214
5. St-Lair Beach, vl.	474
6. Sandwich E., t.-v.	13,663
7. Sandwich S., t.-v.	658
8. Sandwich W.-O., t.-v.	8,196
9. Tecumseh, t.-v.	6,543

CALGARY 139,105

1. Calgary, city proper—cité proprement dite	129,060
2. Bowden, vl.	2,922
3. Forest Lawn, vl.	1,079
4. Shepard, mun. (pt.—part.)	1,509
5. Springbank, mun. (pt.—part.)	4,533

HALIFAX 133,931

1. Halifax, city proper—cité proprement dite	85,589
2. Armadale and Dutch Settlement Area	5,386
3. Cole Harbour and Eastern Passage Area	4,747
4. Dartmouth, t.-v.	15,037
5. Dartmouth Lakes Area	8,231
6. Herring Cove and Spyfield Area	8,415
7. Rockingham and Bedford Area	3,666
8. Woodside and Imperial Area	2,858
9. Indian Reserves—Réserves indiennes	2

LONDON 121,516

1. London, city proper—cité proprement dite	95,343
2. London, t.-v.	14,829
3. Westminster, t.-v.	11,344

VICTORIA 104,803

1. Victoria, city proper—cité proprement dite	51,431
2. Central Saanich District Municipality	2,069
3. Esquimalt District Municipality	10,153
4. Oak Bay District Municipality	11,960
5. Saanich District Municipality	28,481
6. Indian Reserves—Réserves indiennes	309

SAINT JOHN 78,337

1. Saint John, city proper—cité proprement dite	50,779
2. Lunenburg, par.	12,320
3. Robbinston, par.	2,557
4. Robbinston, vl.	896
5. Simonds, par.	10,005
6. Westfield, par.	1,780

ST. JOHN'S 67,749

1. St. John's, city proper—cité proprement dite	52,873
2. Blackhead Section	1,622
3. Freshwater Valley Section	1,639
4. Gouda Section	2,441
5. Mount Pearl Section	892
6. Mundy Pond Section	1,786
7. North Hill Section	1,887
8. Quidi Vidi Section	655
9. Torbay Road Section	1,652
10. Waterford Valley Section	2,302

The distribution of the population of incorporated urban centres in Canada by size groups is given in Table 9 for the census years 1931, 1941 and 1951.

9.—Populations of Incorporated Cities, Towns and Villages by Size, Census Years 1931, 1941 and 1951

Group	1931 ¹			1941 ¹			1951		
	Places	Popu- lation	P.C. of Total Pop.	Places	Popu- lation	P.C. of Total Pop.	Places	Popu- lation	P.C. of Total Pop.
	No.	No.		No.	No.		No.	No.	
Over 500,000.....	2	1,449,784	13.97	2	1,570,464	13.65	2	1,697,274	12.11
Between—									
400,000 and 500,000.....	—	—	—	—	—	—	—	—	—
300,000 and 400,000.....	—	—	—	—	—	—	1	344,833	2.46
200,000 and 300,000.....	3	413,013	3.98	4	577,356	5.02	3	646,076	4.61
100,000 and 200,000.....	7	470,443	4.53	7	508,808	4.42	9	572,756	4.09
50,000 and 100,000.....	10	339,521	3.27	19	605,805	5.26	24	588,436	4.20
25,000 and 50,000.....	23	457,292	4.41	20	377,505	3.28	34	802,380	5.73
15,000 and 25,000.....	23	275,944	2.66	24	510,429	4.44	34	636,713	4.54
10,000 and 15,000.....	68	458,784	4.42	74	296,195	2.57	29	720,077	5.14
5,000 and 10,000.....	71	273,276	2.63	91	348,709	3.03	119	457,492	3.27
3,000 and 5,000.....	324	557,466	5.37	337	561,019	4.88	409	698,092	4.98
1,000 and 3,000.....									
Under 1,000.....	1,072	411,157	3.96	1,060	398,813	3.47	1,049	429,683	3.07
Totals.....	1,605	5,572,058	53.70	1,640	6,252,416	54.34	1,783	7,941,222	56.68

¹ Newfoundland not included.

Of the 1,783 incorporated urban centres in Canada at the date of the latest Census June 1, 1951, 734 had a population of 1,000 or over. These are listed alphabetically by province in Table 10 with their 1951 populations and comparative figures for 1941.

10.—Incorporated Cities, Towns and Villages having Populations of 1,000 or over by Province, Census 1951 compared with 1941

Province and Incorporated Centre	1941	1951	Province and Incorporated Centre	1941	1951
	No.	No.		No.	No.
Newfoundland—¹			Nova Scotia—		
Bay Roberts.....	..	1,222	Amherst.....	8,620	9,870
Carbonear.....	..	3,351	Antigonish.....	2,157	3,196
Channel-Port aux Basques.....	..	2,634	Berwick.....	962	1,045
Corner Brook East.....	..	3,445	Bridgetown.....	1,020	1,038
Corner Brook West.....	5,464	6,831	Bridgewater.....	3,445	4,010
Curling.....	..	3,559	Canso.....	1,418	1,313
Deer Lake.....	..	2,655	Clark's Harbour.....	887	1,020
Fogo.....	..	1,078	Dartmouth.....	10,847	15,037
Grand Bank.....	2,329	2,148	Digby.....	1,657	2,047
Harbour Grace.....	2,065	2,331	Dominion.....	3,279	3,143
Lewisporte.....	..	1,218	Glace Bay.....	25,147	25,586
St. Anthony.....	1,109	1,380	Halifax.....	70,488	85,589
St. John's.....	44,603	52,873	Hantsport.....	907	1,131
St. Lawrence.....	..	1,451	Inverness.....	2,975	2,360
Wabana.....	..	6,460	Kentville.....	3,928	4,240
Wesleyville.....	968	1,304	Liverpool.....	3,170	3,535
Windsor.....	2,772	3,674	Lockeport.....	1,084	1,225
Prince Edward Island—			Louisburg.....	1,012	1,120
Charlottetown.....	14,821	15,887	Lunenburg.....	2,856	2,816
Montague.....	769	1,068	Mahone Bay.....	1,025	1,019
Souris.....	1,114	1,183	Middleton.....	1,172	1,506
Summerside.....	5,034	6,547	Mulgrave.....	1,057	1,212
			New Glasgow.....	9,210	9,933

¹ Census taken by the Newfoundland Government in 1945; 1941 figures not available.

**10.—Incorporated Cities, Towns and Villages having Populations of 1,000 or over
by Province, Census 1951 compared with 1941—continued**

Province and Incorporated Centre	1941	1951	Province and Incorporated Centre	1941	1951
	No.	No.		No.	No.
Nova Scotia—concluded			Quebec—continued		
New Waterford.....	9,302	10,423	Boucherville.....	1,047	1,583
North Sydney.....	6,836	7,354	Bourlamaque.....	1,545	2,460
Oxford.....	1,297	1,466	Bromptonville.....	1,672	2,025
Parssboro.....	1,971	1,906	Brownburg.....	3,105	3,238
Pictou.....	3,069	4,259	Buckingham.....	4,516	6,129
Port Hawkesbury.....	1,031	1,034	Cabano.....	2,031	2,594
Shelburne.....	1,605	2,040	Cadillac.....	989	1,514
Springhill.....	7,170	7,138	Cap Chat.....	1,329	1,642
Stellarton.....	5,351	5,575	Cap de la Madeleine.....	11,961	18,667
Stewiacke.....	961	1,018	Causapsal.....	1,545	2,609
Sydney.....	28,305	31,317	Chamby Bassin.....	1,423	2,160
Sydney Mines.....	8,198	8,410	Chamby Canton.....	1,185	1,636
Trenton.....	2,699	3,089	Chambord.....	1,029	1,070
Truro.....	10,272	10,756	Chandler.....	1,858	2,326
Westville.....	4,115	4,301	Charlemagne.....	1,150	1,856
Windsor.....	3,436	3,439	Charlesbourg.....	2,789	5,734
Wolfville.....	1,944	2,313	Charny.....	2,831	3,300
Yarmouth.....	7,790	8,106	Châteauguay.....	1,425	2,240
			Chicoutimi.....	16,040	23,111
New Brunswick—			Clermont.....	1	2,027
Bathurst.....	3,554	4,453	Coaticook.....	4,414	6,341
Campbellton.....	6,748	7,754	Contrecoeur.....	1,043	1,435
Chatham.....	4,082	5,223	Cookshire.....	877	1,209
Dalhousie.....	4,508	4,939	Côte-St-Luc.....	776	1,083
Dieppe.....	1	3,402	Courville.....	2,011	3,138
Edmundston.....	7,096	10,753	Cowansville.....	3,486	4,431
Fredericton.....	10,062	16,018	Danville.....	1,332	2,092
Grand Falls.....	1,806	2,365	DeLéry.....	816	1,194
Hartland.....	847	1,000	Deschailons-sur-St. Laurent.....	1,078	1,185
Marysville.....	1,651	2,152	Deschênes.....	284	1,169
Milltown.....	1,876	2,267	Disraeli.....	1,338	2,145
Moncton.....	22,763	27,334	Dolbeau.....	2,847	4,307
Newcastle.....	3,781	4,248	Donnacona.....	3,064	3,663
St. Andrews.....	1,167	1,458	Dorion.....	1,292	2,413
St. George.....	1,169	1,263	Dorval.....	2,048	5,293
St. Leonard.....	1,095	1,419	Drummondville.....	10,555	14,341
St. Stephen.....	3,306	3,769	Drummondville W.....	1	1,275
Sackville.....	2,489	2,873	Duparquet.....	1,384	1,485
Saint John.....	51,741	50,779	East Angus.....	3,501	3,714
Shediac.....	2,147	2,010	Farnham.....	4,055	4,926
Shippegan.....	1	1,181	Ferme-Neuve.....	811	1,660
Sunny Brae.....	1,368	2,048	Fort Coulonge.....	1,072	1,431
Sussex.....	3,027	3,224	Gaspé.....	924	1,692
Woodstock.....	3,593	3,996	Gatineau.....	2,822	5,771
			Giffard.....	4,909	8,097
Quebec—			Granby.....	14,197	21,989
Acton Vale.....	2,366	3,367	Grand Mère.....	8,608	11,089
Amos.....	2,862	4,265	Greenfield Park.....	1,819	3,379
Amqui.....	1,593	2,599	Grenville.....	737	1,069
Arthabaska.....	1,883	2,321	Hampstead.....	1,974	3,260
Arvida.....	4,581	11,078 ³	Hébertville Station.....	950	1,038
Asbestos.....	5,711	8,190	Hudson.....	731	1,283
Aylmer.....	3,115	4,375	Hull.....	32,947	43,483
Bagotville.....	3,243	4,136	Huntingdon.....	1,952	2,806
Baie Comeau.....	1,543	3,972	Iberville.....	3,454	5,185
Baie de Shawinigan.....	1,255	1,223	Jacques-Cartier.....	1	22,450
Baie St. Paul.....	3,500	3,716	Joliette.....	12,749	16,064
Beaconsfield.....	706	1,888	Jonquières.....	13,769	21,618
Beauceville.....	899	1,149	Kénogami.....	6,579	9,895
Beauceville E.....	1,251	1,573	Knowlton.....	972	1,094
Beauharnois.....	3,550	5,694	Labelle.....	709	1,003
Beauport.....	3,725	5,390	L'Abord-à-Plouffe.....	1,773	4,604
Beauport E.....	587	1,096	Lac-au-Saumon.....	1,703	1,622
Bedford.....	1,697	2,073	Lachine.....	20,051	27,773
Beebe Plain.....	1,024	1,352	Lachute.....	5,810	6,179
Bellefleur.....	1	1,011	Lacolle.....	874	1,055
Bélœil.....	2,008	2,992	Lac St. Louis.....	819	1,300
Bernierville.....	1,638	1,959	La Guadeloupe.....	627	1,321
Berthierville.....	2,634	3,325	La Malbaie.....	2,324	2,466
Bic.....	1,117	1,086	La Pêrade.....	1,014	1,111
Black Lake.....	2,276	2,800	Laprairie.....	2,936	4,058

¹ Not incorporated in 1941.² St. Benoit-Joseph-Labre in 1941.³ Racine annexed to town of Arvida.⁴ Berthier in 1941.⁵ St. Evariste Station in 1941.

**10.—Incorporated Cities, Towns and Villages having Populations of 1,000 or over
by Province, Census 1951 compared with 1941—continued**

Province and Incorporated Centre	1941	1951	Province and Incorporated Centre	1941	1951
	No.	No.		No.	No.
Quebec—continued			Quebec—continued		
La Providence.....	1,924	2,693	Rimouski.....	7,009	11,565
Lasalle.....	4,651	11,633	Rivière-du-Loup.....	8,713	9,425
La Sarre.....	2,167	2,744	Rivière-du-Moulin.....	1,561	2,685
L'Assomption.....	1,829	2,688	Roberval.....	3,220	4,897
La Tuque.....	7,919	9,538	Rock Island.....	1,395	1,646
Laurentides.....	1,342	1,465	Rouyn.....	8,808	14,633
Lauzon.....	7,877	9,643	St. Agathe-des-Monts.....	3,308	5,169
Laval-des-Rapides.....	3,242	4,998	St. Alexis-de-la-Grande-Baie.....	2,230	2,974
Laval W.....	542	1,935	St. Ambroise.....	458	1,032
Le Moine.....	1	4,078	St. Anne-de-Beaupré.....	1,783	1,827
Lennoxville.....	2,150	2,895	St. Anne-de-Bellevue.....	3,006	3,342
L'Epiphanie.....	1,941	2,462	St. Anne-de-Chicoutimi.....	1,540	3,966
Lévis.....	11,991	13,162	St. Basile South.....	1	1,347
Longueuil.....	7,087	11,103	St. Casimir.....	1,307	1,334
Loretteville.....	2,564	4,382	St. Césaire.....	1,209	1,658
Louiseville.....	3,542	4,088	St. Cœur-de-Marie.....	661	1,061
Luceville.....	701	1,059	St. Croix.....	841	1,080
Macamic.....	645	1,123	St. Cyrille.....	723	1,189
Mackayville.....	1	6,494	St. Emilien.....	1,018	1,651
Magog.....	9,034	12,423	St. Eustache.....	1,564	2,615
Malartic.....	2,895	5,983	St. Eustache-sur-le-Lac.....	1,472	3,211
Maniwaki.....	2,320	3,835	St. Félix.....	1,603	2,656
Marieville.....	2,394	3,117	St. Felix-de-Valois.....	1,130	1,201
Masson.....	1,226	1,475	St. Foy.....	1	5,236
Matane.....	4,633	6,345	St. Gabriel-de-Brandon.....	1,632	2,661
McMasterville.....	1,097	1,509	St. Geneviève-de-Pierrefonds.....	489	1,322
Mégantic.....	4,560	6,164	St. Georges (Champlain Co.).....	753	1,143
Mistassini.....	1,294	2,298	St. Georges (Beauce Co.) ¹	1,945	2,657
Montebello.....	1,266	1,397	St. Georges W. (Beauce Co.).....	1	2,691
Mont Joli.....	3,533	4,938	St. Hilaire.....	686	1,436
Mont Laurier.....	2,661	4,701	St. Hyacinthe.....	17,798	20,236
Montmagny.....	4,585	5,844	St. Jacques.....	1,634	1,729
Montmorency.....	5,393	5,817	St. Jean.....	13,646	19,305
Montreal.....	903,007	1,021,520	St. Jean-de-Boischatel.....	882	1,297
Montreal E.....	2,355	4,513	St. Jérôme (Lac St. Jean Co.).....	1,469	1,480
Montreal N.....	6,152	14,081	St. Jérôme (Terrebonne Co.).....	11,329	17,685
Montreal S.....	1,441	4,214	St. Joseph (Beauce Co.).....	1,892	2,417
Montreal W.....	3,474	3,721	St. Joseph (Drummond Co.).....	5,556	6,576
Mount Royal.....	4,888	11,352	St. Joseph (St. Hyacinthe Co.).....	1,021	2,122
Napierville.....	990	1,356	St. Joseph-d'Alma.....	6,449	7,975
Naudville.....	1	1,430	St. Joseph-de-la-Rivière-Blanche.....	1,082	1,334
Nicolet.....	3,751	4,084	St. Joseph-de-Sorel ²	2,207	3,349
Noranda.....	4,576	9,672	St. Jovite.....	1,059	1,453
Normandin.....	1,029	1,678	St. Lambert.....	6,417	8,615
Notre-Dame-d'Hébertville.....	1,025	1,285	St. Laurent.....	6,242	20,426
Notre-Dame-de-Lorette.....	1	2,516	St. Marc-des-Carrières.....	2,118	2,351
Notre-Dame-de-Portneuf.....	1,015	1,144	St. Marie.....	1,736	2,431
Notre-Dame-du-Lac.....	1	1,364	St. Michel (Montreal Island).....	2,956	10,539
Ormstown.....	887	1,233	St. Pacôme.....	1,254	1,197
Outremont.....	30,751	30,057	St. Pascal.....	1,265	1,736
Papineauville.....	1,023	1,024	St. Pie.....	1,009	1,182
Parent.....	1	1,255	St. Pierre (Montreal Island).....	4,061	4,976
Pierreville.....	1,302	1,448	St. Raymond.....	2,157	3,139
Plessisville.....	3,522	5,094	St. Remi.....	1,431	1,845
Pointe-à-Gatineau.....	2,230	3,874	St. Rosalie.....	1	1,038
Pointe-au-Pic.....	1,083	1,105	St. Rose.....	2,292	3,660
Pointe-aux-Trembles.....	4,314	8,241	St. Sauveur-des-Monts.....	595	1,066
Pointe Claire.....	4,536	8,753	St. Siméon.....	858	1,103
Pont Rouge.....	1,865	2,413	St. Thècle.....	904	1,488
Pont Viau.....	2	5,129	St. Thérèse.....	4,659	7,038
Port Alfred.....	3,243	3,937	St. Tito.....	2,385	2,856
Price.....	2,321	2,810	Sayabec.....	2,115	2,220
Princeville.....	1,145	1,967	Scotstown.....	1,273	1,350
Quebec.....	150,757	164,016	Senneterre.....	1	1,686
Quebec W.....	3,619	7,295	Sept-Iles.....	1	1,866
Rawdon.....	1,236	1,912	Shawinigan Falls.....	20,325	26,903
Richelieu.....	773	1,129	Shawinigan-South.....	2,282	6,637
Richmond.....	3,082	3,471	Shawville.....	892	1,159
Rigaud.....	1,222	1,579	Sherbrooke.....	35,965	50,543

¹ Not incorporated in 1941.

² Pont Viau Rural Municipality in 1941.

³ Ste. Foy Rural Municipality in 1941.

⁴ St. Georges E. in 1941.

⁵ St. Joseph in 1941.

**10.—Incorporated Cities, Towns and Villages having Populations of 1,000 or over
by Province, Census 1951 compared with 1941—continued**

Province and Incorporated Centre	1941	1951	Province and Incorporated Centre	1941	1951
	No.	No.		No.	No.
Quebec—concluded			Ontario—continued		
Sillery.....	1	10,376	Cochrane.....	2,844	3,401
Sorel.....	12,251	14,961	Colborne.....	994	1,108
Sutton.....	1,118	1,389	Collingwood.....	6,270	7,413
Tadoussac.....	766	1,064	Coniston.....	2,245	2,292
Témiscaming.....	2,168	2,787	Copper Cliff.....	3,732	3,974
Templeton.....	949	1,717	Cornwall.....	14,117	16,899
Terrebonne.....	2,209	3,200	Crystal Beach.....	618	1,204
Thetford Mines.....	12,716	15,095	Delhi.....	2,062	2,517
Three Rivers.....	42,007	46,074	Deseronto.....	1,261	1,522
Thurso.....	1,295	1,973	Dresden.....	1,662	2,052
Trois Pistoles.....	2,176	3,537	Dryden.....	1,641	2,627
Val-d'Or.....	4,385	8,685	Dundas.....	5,276	6,846
Vallée Jonction ¹	1,175	1,279	Dunnville.....	4,028	4,478
Valleyfield (Salaberry-de-).....	17,052	22,414	Durham.....	1,700	1,839
Varennes.....	781	1,104	Eastview.....	7,966	13,799
Verchères.....	906	1,201	Eganville.....	1,088	1,326
Verdun.....	67,349	77,391	Elmira.....	2,012	2,589
Victoriaville.....	8,516	13,124	Elora.....	1,247	1,348
Ville-Marie.....	1,001	1,316	Englehart.....	1,262	1,585
Warwick.....	1,504	2,094	Essex.....	1,935	2,741
Waterloo.....	3,173	4,054	Exeter.....	1,589	2,547
Waterville.....	844	1,205	Fenelon Falls.....	1,158	1,304
Weedon Centre.....	599	1,066	Fergus.....	2,832	3,387
Westmount.....	26,047	25,222	Fonthill.....	1,000	1,412
Windsor.....	3,368	4,714	Forest.....	1,570	1,790
Ontario—			Forest Hill.....	11,757	15,305
Acton.....	2,063	2,880	Fort Erie.....	6,595	7,572
Alexandria.....	2,175	2,204	Fort Frances.....	5,897	8,038
Alliston.....	1,733	1,987	Fort William.....	30,585	34,947
Almonte.....	2,543	2,672	Frankford.....	1,144	1,393
Amherstburg.....	2,853	3,638	Galt.....	15,346	19,207
Arnprior.....	3,895	4,381	Gananoque.....	4,044	4,572
Arthur.....	937	1,088	Georgetown.....	2,562	3,452
Aurora.....	2,726	3,358	Geraldton.....	2,979	3,227
Aylmer.....	2,478	3,483	Goderich.....	4,557	4,934
Bancroft.....	1,094	1,334	Gravenhurst.....	2,122	3,005
Barrie.....	9,725	12,514	Grimsby.....	2,331	2,773
Barry's Bay.....	1,198	1,218	Guelph.....	23,273	27,386
Beamsville.....	1,309	1,712	Hagersville.....	1,455	1,746
Beaverton.....	934	1,048	Haileybury.....	2,268	2,346
Belle River.....	999	1,431	Hamilton.....	166,837	208,321
Belleville.....	15,710	19,519	Hanover.....	3,290	3,533
Blenheim.....	1,952	2,459	Harriston.....	1,305	1,494
Blind River.....	2,619	2,512	Harrow.....	1,166	1,519
Bobcaygeon.....	1,002	1,207	Havelock.....	1,113	1,132
Bowmanville.....	4,113	5,430	Hawkesbury.....	6,263	7,194
Bracebridge.....	2,341	2,684	Hearst.....	995	1,723
Bradford.....	1,033	1,483	Hespeler.....	3,058	3,862
Brampton.....	6,020	8,389	Humberstone.....	2,963	3,895
Brantford.....	31,948	36,727	Huntsville.....	2,800	3,286
Bridgeport.....	3	1,137	Ingersoll.....	5,782	6,524
Brighton.....	1,651	1,967	Iroquois.....	956	1,086
Brockville.....	11,342	12,301	Iroquois Falls.....	1,302	1,342
Burlington.....	3,815	6,017	Kapuskasing.....	3,431	4,687
Burlington Beach ⁴	2,827	6,017	Keewatin.....	1,431	1,634
Caledonia.....	1,401	1,681	Kemptville.....	1,232	1,488
Campbellford.....	3,018	3,235	Kenora.....	7,745	8,695
Capreol.....	1,641	2,002	Kincardine.....	2,507	2,672
Cardinal.....	1,645	1,782	Kingston.....	30,126	33,459
Carleton Place.....	4,305	4,725	Kingsville.....	2,317	2,631
Casselman.....	1,021	1,158	Kitchener.....	35,657	44,867
Chatham.....	17,569	21,218	Lakefield.....	1,349	1,710
Chelmsford.....	905	1,210	La Salle.....	951	1,854
Chesley.....	1,701	1,672	Leamington.....	5,858	6,950
Chesterville.....	1,067	1,094	Leaside.....	6,183	16,233
Chippewa.....	1,385	1,762	Levack.....	895	1,833
Clinton.....	1,896	2,547	Lindsay.....	8,403	9,603
Cobalt.....	2,376	2,230	Listowel.....	3,013	3,469
Cobourg.....	5,973	7,470	Little Current.....	1,088	1,397
			London.....	78,134	95,343

¹ St. Colomb-de-Sillery Rural Municipality in 1941.
in 1941. ⁴ Park Commission.

² L'Infant Jesus in 1941.

³ Not incorporated

**10.—Incorporated Cities, Towns and Villages having Populations of 1,000 or over
by Province, Census 1951 compared with 1941—continued**

Province and Incorporated Centre	1941	1951	Province and Incorporated Centre	1941	1951
	No.	No.		No.	No.
Ontario—continued			Ontario—concluded		
Long Branch.....	5,172	8,727	Stirling.....	990	1,100
Madoc.....	1,188	1,240	Stoney Creek.....	1,007	1,922
Markdale.....	870	1,007	Stouffville.....	1,253	1,695
Markham.....	1,204	1,606	Stratford.....	17,038	18,785
Marmora.....	1,106	1,117	Strathroy.....	3,016	3,708
Mattawa.....	1,971	3,097	Streetsville.....	709	1,139
Meaford.....	2,662	3,178	Sturgeon Falls.....	4,576	4,962
Merriton.....	2,993	4,714	Sudbury.....	32,203	42,410
Midland.....	6,800	7,206	Sutton.....	1,051	1,168
Milton.....	1,964	2,451	Swansea.....	6,988	8,072
Milverton.....	1,015	1,055	Tavistock.....	1,066	1,094
Mimico.....	8,070	11,342	Tecumseh.....	2,412	3,543
Mitchell.....	1,777	1,979	Thessalon.....	1,316	1,595
Morrisburg.....	1,575	1,858	Thorold.....	5,305	6,397
Mount Forest.....	1,892	2,291	Tilbury.....	2,155	2,682
Napanee.....	3,405	3,897	Tillsonburg.....	4,002	5,330
New Hamburg.....	1,402	1,738	Timmins.....	28,790	27,743
New Liskeard.....	3,019	4,215	Toronto.....	667,457	675,754
Newmarket.....	4,026	5,356	Trenton.....	8,323	10,085
New Toronto.....	9,504	11,194	Tweed.....	1,343	1,562
Niagara.....	1,541	2,108	Uxbridge.....	1,406	1,785
Niagara Falls.....	20,589	22,874	Vankleek Hill.....	1,435	1,480
North Bay.....	15,599	17,944	Walkerton.....	2,679	3,264
Norwich.....	1,268	1,439	Wallaceburg.....	4,986	7,688
Oakville.....	4,115	6,910	Waterdown.....	910	1,347
Orangeville.....	2,718	3,249	Waterford.....	1,342	1,745
Orillia.....	9,798	12,110	Waterloo.....	9,025	11,991
Oshawa.....	26,813	41,545	Watford.....	1,076	1,201
Ottawa.....	154,951	202,045	Welland.....	12,500	15,382
Owen Sound.....	14,002	16,423	West Lorne.....	728	1,031
Palmerston.....	1,418	1,573	Weston.....	5,740	8,677
Paris.....	4,637	5,249	Wheatley.....	785	1,021
Parry Sound.....	5,765	5,183	Whitby.....	5,904	7,267
Pembroke.....	11,159	12,704	Wiaraton.....	1,749	1,955
Penetanguishene.....	4,521	4,949	Winchester.....	1,049	1,201
Perth.....	4,458	5,034	Windsor.....	105,311	120,049
Peterborough.....	25,350	38,272	Wingham.....	2,030	2,642
Petrolia.....	2,801	3,105	Woodbridge.....	1,044	1,699
Pictou.....	3,901	4,287	Woodstock.....	12,461	15,544
Point Edward.....	1,363	1,838			
Port Arthur.....	24,426	31,161	Manitoba—		
Port Colborne.....	6,993	8,275	Altona.....	¹	1,438
Port Credit.....	2,160	3,643	Beauséjour.....	1,161	1,376
Port Dalhousie.....	1,723	2,616	Boissevain.....	817	1,015
Port Dover.....	1,968	2,440	Brandon.....	17,383	20,598
Port Elgin.....	1,395	1,558	Brooklands.....	2,240	2,915
Port Hope.....	5,055	6,548	Carman.....	1,455	1,867
Port Perry.....	1,245	1,721	Dauphin.....	4,662	6,007
Portsmouth.....	3,135	3,411	Flin Flon.....	¹	9,899
Port Stanley.....	1,177	1,491	Gimli.....	853	1,324
Prescott.....	3,223	3,518	Killarney.....	1,051	1,262
Preston.....	6,704	7,619	Minnedosa.....	1,636	2,085
Rainy River.....	1,205	1,348	Morden.....	1,427	1,862
Renfrew.....	5,511	7,360	Morris.....	953	1,193
Richmond Hill.....	1,345	2,164	Neepawa.....	2,292	2,895
Ridgetown.....	1,944	2,365	Portage la Prairie.....	7,187	8,511
Riverside.....	4,878	9,214	Powerview.....	¹	1,075
Rockcliffe Park.....	1,480	1,595	Rivers.....	802	1,209
Rockland.....	2,040	2,348	Roblin.....	765	1,055
St. Catharines.....	30,275	37,984	Russell.....	783	1,100
St. Mary's.....	3,635	3,995	St. Boniface.....	18,157	26,342
St. Thomas.....	17,132	18,173	Selkirk.....	4,915	6,218
Sarnia.....	18,734	34,697	Souris.....	1,346	1,584
Sault Ste. Marie.....	25,794	32,452	Steinbach.....	¹	2,155
Seaford.....	1,668	2,118	Stonewall.....	1,020	1,040
Shelburne.....	1,005	1,184	Swan River.....	1,129	2,280
Simcoe.....	6,037	7,269	The Pas.....	3,181	3,376
Sioux Lookout.....	1,756	2,364	Transcona.....	5,495	6,752
Smith's Falls.....	7,159	8,441	Tuxedo.....	735	1,627
Smooth Rock Falls.....	953	1,102	Virden.....	1,619	1,746
Southampton.....	1,600	1,700	Winkler.....	957	1,331
Stayner.....	1,085	1,280	Winnipeg.....	221,960	235,710

¹ Not incorporated in 1941.

**10.—Incorporated Cities, Towns and Villages having Populations of 1,000 or over
by Province, Census 1951 compared with 1941—concluded**

Province and Incorporated Centre	1941	1951	Province and Incorporated Centre	1941	1951
	No.	No.		No.	No.
Saskatchewan—			Alberta—concluded		
Assiniboia.....	1,349	1,938	McLennan.....	²	1,074
Battleford.....	1,317	1,319	Medicine Hat.....	10,571	16,364
Biggar.....	1,930	2,214	Olds.....	1,337	1,617
Canora.....	1,200	1,568	Peace River.....	873	1,672
Estevan.....	2,774	3,935	Pincher Creek.....	994	1,456
Eston.....	726	1,301	Ponoka.....	1,306	2,574
Gravelbourg.....	1,130	1,197	Raymond.....	2,089	2,279
Grenfell.....	857	1,007	Redcliff.....	1,111	1,538
Hudson Bay.....	547	1,115	Red Deer.....	2,924	7,575
Humboldt.....	1,767	2,435	Redwater.....	²	1,306
Indian Head.....	1,349	1,569	Rocky Mountain House.....	800	1,147
Kamsack.....	1,792	2,327	St. Albert.....	697	1,129
Kindersley.....	990	1,755	St. Paul.....	1,018	1,407
Lloydminster ¹	1,624	3,938	Stettler.....	1,295	2,442
Maple Creek.....	1,085	1,638	Taber.....	1,331	3,042
Meadow Lake.....	971	1,956	Three Hills.....	706	1,026
Melfort.....	2,005	2,919	Vegreville.....	1,696	2,223
Melville.....	4,011	4,458	Vermilion.....	1,408	1,982
Moose Jaw.....	20,753	24,355	Vulcan.....	732	1,040
Moosomin.....	1,096	1,235	Wainwright.....	980	1,996
Nipawin.....	1,344	3,050	Westlock.....	590	1,111
North Battleford.....	4,745	7,473	Wetaskiwin.....	2,318	3,824
Prince Albert.....	12,508	17,149			
Regina.....	58,245	71,319	British Columbia—		
Rosetown.....	1,470	1,865	Alberni.....	1,807	3,323
Rosthern.....	1,149	1,183	Armstrong.....	977	1,126
Saskatoon.....	43,027	53,268	Campbell River.....	²	1,986
Shanavon.....	1,603	1,625	Castlegar.....	²	1,329
Sutherland.....	888	1,329	Chilliwack.....	3,675	5,663
Swift Current.....	5,594	7,458	Courtenay.....	1,737	2,553
Tisdale.....	1,237	2,141	Cranberry Lake.....	²	1,350
Unity.....	682	1,248	Cranbrook.....	2,568	3,621
Wadena.....	679	1,081	Creston.....	1,153	1,626
Watrous.....	1,138	1,228	Dawson Creek.....	518	3,589
Weyburn.....	6,179	7,148	Duncan.....	2,189	2,784
Wilkie.....	1,232	1,580	Fernie.....	2,545	2,551
Wynyard.....	1,080	1,326	Grand Forks.....	1,259	1,646
Yorkton.....	5,577	7,074	Hope.....	515	1,668
Alberta—			Kamloops.....	5,959	8,099
Athabasca.....	578	1,068	Kelowna.....	5,118	8,517
Barrhead.....	399	1,243	Kimberley.....	²	5,933
Beverly.....	981	2,159	Ladysmith.....	1,706	2,094
Black Diamond.....	890	1,154	Lake Cowichan.....	²	1,628
Blairmore.....	1,731	1,933	Merritt.....	940	1,251
Bonnyville.....	603	1,139	Mission City.....	1,957	2,668
Bowness.....	²	2,922	Nanaimo.....	6,635	7,196
Brooks.....	888	1,648	Nelson.....	5,912	6,772
Calgary.....	88,904	129,060	New Westminster.....	21,967	28,639
Camrose.....	2,598	4,131	North Kamloops.....	²	1,979
Cardston.....	1,864	2,487	North Vancouver.....	8,914	15,687
Clareholm.....	1,265	1,608	Oliver.....	³	1,000
Coleman.....	1,870	1,961	Penticton.....	³	10,548
Didsbury.....	892	1,180	Port Alberni.....	4,584	7,845
Drumheller.....	2,748	2,601	Port Coquitlam.....	1,539	3,232
Edmonton.....	93,817	159,631	Port Moody.....	1,512	2,246
Edson.....	1,499	1,956	Prince George.....	2,027	4,703
Forest Lawn.....	899	1,079	Prince Rupert.....	6,714	8,546
Fort Saskatchewan.....	903	1,076	Quesnel.....	653	1,587
Grande Prairie.....	1,724	2,664	Revelstoke.....	2,106	2,917
Hanna.....	1,622	2,027	Roseland.....	3,657	4,604
High Prairie.....	²	1,141	Salmon Arm.....	836	1,201
High River.....	1,430	1,888	Smithers.....	759	1,204
Innisfail.....	1,223	1,417	Trail.....	9,392	11,430
Jasper Place.....	²	9,139	Vancouver.....	275,353	344,833
Lacombe.....	1,603	2,277	Vernon.....	5,209	7,822
Leduc.....	871	1,842	Victoria.....	44,068	51,331
Lethbridge.....	14,612	22,947	Westview.....	²	3,507
Macleod.....	1,912	1,860			
Magrath.....	1,207	1,320	Yukon Territory—		
			Whitehorse.....	754	2,594

¹ Located partly in Alberta.² Not incorporated in 1941.³ Penticton District Municipality in 1941.

Section 8.—Sex and Age Distribution

Sex.—The sex distribution of the Canadian people has been characterized since early colonial times by a preponderance of males although this condition has been greatly modified in more recent years. In 1666 during the early years of settlement by French immigrants 63·3 p.c. of the population were males. In 1784 when British immigration to Canada was commencing there were 54,064 males and 50,759 females and by the middle of the nineteenth century there were 449,967 males to 440,294 females in Lower Canada and 499,067 males to 452,937 females in the more newly settled Upper Canada. Since Confederation the newer sections of Canada—the west and the northwest—have shown the greatest excess of males.

From 1871 to 1941, for Canada as a whole, the proportion of males never dropped below 51 p.c. of the total population whereas for Western Canada it varied between 53 p.c. and 59 p.c. By 1951 however the proportion of males to the total population had dropped to 50·6 p.c. for Canada as a whole.

11.—Sex Distribution of the Population by Province, Decennial Census Years 1921-51

NOTE.—Figures for the Censuses of 1871, 1881, 1891, 1901 and 1911 are given in the 1948-49 Year Book, p. 150.

Province or Territory	1921		1931		1941		1951	
	Male	Female	Male	Female	Male	Female	Male	Female
	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	***	***	***	***	***	***	185,143	176,273
P. E. Island.....	44,887	43,728	45,392	42,646	49,228	45,819	50,218	48,211
Nova Scotia.....	266,472	257,365	263,104	249,742	296,044	281,918	324,955	317,629
New Brunswick...	197,351	190,525	208,620	199,599	234,097	223,304	259,211	256,486
Quebec.....	1,179,651	1,180,859	1,447,326	1,427,336	1,672,982	1,658,900	2,022,127	2,033,554
Ontario.....	1,481,890	1,451,772	1,748,844	1,682,839	1,921,201	1,866,454	2,314,170	2,283,372
Manitoba.....	320,567	289,551	368,065	332,074	378,079	351,665	394,818	381,723
Saskatchewan.....	413,700	343,810	499,935	421,850	477,563	418,429	434,568	397,160
Alberta.....	324,208	264,246	400,199	331,406	426,458	369,711	492,192	447,309
British Columbia..	293,409	231,173	385,219	309,044	435,031	382,830	596,961	568,249
Yukon.....	2,819	1,338	2,825	1,405	3,153	1,761	5,457	3,639
N.W.T.....	4,204	3,939	5,012	4,304	6,700	5,328	9,053	6,951
Canada.....	4,529,643¹	4,258,306	5,374,541	5,002,245	5,900,536	5,606,119	7,088,873	6,920,556

¹ Includes 485 members of the Royal Canadian Navy recorded separately.

Age.—The age distribution of a population is fundamental to most, if not all, other analyses, for the age factor influences employment, marriage, birth rates and death rates, education, immigration, criminology and a multitude of events and activities that are of great importance in the national life.

Immigration has a strong influence on age distribution: it does not directly affect the very young sections of the population except to a small degree, but it immediately affects the age groups between the 'teens' and the 'twenties' and its effects are carried to the older groups as time goes by. Thus the influence of the very heavy immigration of the early years of the century (1900-11) is indicated by the fact that in 1901, 175·9 persons per 1,000 of the total population were in the age group 20-29 years and 131·3 persons per 1,000 in the group 30-39 years; a decade later 190·7 per 1,000 were in the former group and 142·9 in the latter. Immigration slowed down very decidedly after the outbreak of war in 1914 and the influence of these earlier accretions to the population has crept through the upper age groups year by year until it has now reached those of the population in their 'fifties'.

Between 1931 and 1941 a more pronounced general ageing of the population is shown, a result of almost non-existent immigration and a lower birth rate—factors that were emphasized during the depression years. In 1921 the number per 1,000 of total population between 40 and 59 years of age was 183; it was 201 in 1931 and 209 in 1941. Greater proportional increases however are shown by the group 60 years of age or over; this group represented 75 per 1,000 of the total population in 1921, 84 in 1931 and no less than 102 per 1,000 in 1941.

In 1951 there were 203·2 persons per 1,000 of total population between 40 and 59 years of age and 113·7 in the group 60 years of age or over. There were 222·7 persons per 1,000 of total population in the under 10 years of age group in 1951 as compared with 182·3 in 1941, 212·7 in 1931 and 240·0 in 1921.

Table 12 shows the population of Canada classified by five year age groups and sex for the census years 1931, 1941 and 1951. The provincial distribution from the 1951 Census by specified age groups is shown in Table 13.

12.—Male and Female Populations by Age Group, Census Years 1931, 1941 and 1951

Age Group	1931 ¹		1941		1951	
	Male	Female	Male	Female	Male	Female
	No.	No.	No.	No.	No.	No.
0 - 4 years.....	543,299	531,293	533,903	517,951	879,063	843,046
5 - 9 ".....	572,648	560,296	529,092	516,728	713,873	683,952
10 - 14 ".....	543,067	531,173	556,304	544,573	575,122	555,661
15 - 19 ".....	525,536	514,474	565,212	554,823	532,180	525,792
20 - 24 ".....	463,978	447,584	517,956	514,470	537,535	551,106
25 - 29 ".....	410,220	376,407	488,340	478,650	552,812	578,403
30 - 34 ".....	368,346	340,792	431,591	412,255	512,557	530,177
35 - 39 ".....	359,318	329,474	396,453	363,101	503,571	495,562
40 - 44 ".....	347,989	298,416	348,616	327,929	445,800	422,767
45 - 49 ".....	321,749	263,770	332,503	302,643	387,708	356,971
50 - 54 ".....	267,526	221,408	315,866	275,838	340,461	322,195
55 - 59 ".....	199,296	167,910	275,234	231,658	292,564	278,126
60 - 64 ".....	157,019	137,722	218,557	188,594	264,324	241,828
65 - 69 ".....	120,770	110,467	162,517	145,207	228,076	205,421
70 - 74 ".....	88,630	83,040	111,152	105,949	160,398	154,674
75 - 79 ".....	50,046	48,624	67,200	68,495	94,130	94,261
80 - 84 ".....	23,891	25,300	34,083	37,431	45,963	50,828
85 - 89 ".....	8,670	10,469	12,621	15,015	17,539	22,060
90 years or over.....	2,543	3,626	3,336	4,809	5,197	7,726
Totals.....	5,374,541	5,002,245	5,900,536	5,606,119	7,088,873	6,920,556

¹ Persons whose ages were not stated have been pro-rated over the various age groups.

13.—Age Distribution of the Population by Province, Census 1951

Province or Territory	0-4	5-9	10-14	15-19	20-24	25-34
	No.	No.	No.	No.	No.	No.
Newfoundland.....	58,831	46,433	36,126	30,403	26,718	48,871
Prince Edward Island.....	13,213	10,358	9,294	8,296	6,557	12,739
Nova Scotia.....	82,540	68,816	58,131	51,533	46,275	93,276
New Brunswick.....	74,869	59,504	49,541	42,850	36,559	72,167
Quebec.....	541,524	463,444	361,140	337,501	340,902	629,310
Ontario.....	514,722	399,292	325,300	315,685	352,360	738,282
Manitoba.....	89,977	72,594	60,143	57,188	58,752	120,780
Saskatchewan.....	99,855	81,782	73,615	68,482	62,613	122,602
Alberta.....	116,846	93,063	76,897	73,941	75,527	148,666
British Columbia.....	125,886	99,892	78,609	70,230	79,824	182,370
Yukon Territory.....	1,319	809	526	435	934	2,115
Northwest Territories.....	2,527	1,838	1,461	1,428	1,620	2,771
Canada	1,722,109	1,397,825	1,130,783	1,057,972	1,088,641	2,173,949
	35-44	45-54	55-64	65-69	70+	Total
	No.	No.	No.	No.	No.	No.
Newfoundland.....	41,417	27,883	21,244	9,071	14,419	361,416
Prince Edward Island.....	11,641	8,985	7,639	3,268	6,439	98,429
Nova Scotia.....	82,912	57,822	46,354	19,440	35,485	642,584
New Brunswick.....	61,576	44,147	35,451	14,286	24,747	515,697
Quebec.....	518,290	375,657	255,816	93,161	138,936	4,055,681
Ontario.....	643,139	515,607	392,792	155,097	245,266	4,597,542
Manitoba.....	105,984	78,852	66,803	27,347	38,121	776,541
Saskatchewan.....	107,217	79,188	69,161	29,103	38,110	831,728
Alberta.....	123,480	92,480	71,658	29,439	37,504	939,501
British Columbia.....	168,819	124,693	108,750	52,927	73,210	1,165,210
Yukon Territory.....	1,313	750	428	186	281	9,096
Northwest Territories.....	1,912	1,271	746	172	258	16,004
Canada	1,867,700	1,407,335	1,076,842	433,497	652,776	14,009,429

Section 9.—Marital Status

Next to the sex and age distribution of a population, that of marital status is probably most fundamental from a vital, economic and social viewpoint. The number of married females between 15 and 45 years of age is a most significant factor in the fertility of a population; if the proportion of females in this group is small the expected proportion of births will also be small. In 1951, 64.0 p.c. of all married females were in the age group 15-44 as compared with 61.2 p.c. in 1941 and 63.5 p.c. in 1931. This indicates a resumption of conditions favourable to the birth rate that prevailed from 1871 to 1921 but was arrested temporarily during the period of world-wide depression.

Although Canada has more single than married persons, information from the 1951 Census shows that the nation's married population increased more than twice as fast as the single population in the decade between 1941 and 1951. With a total population increase of nearly 22 p.c. the number of single persons in Canada increased by 13.5 p.c., married by 32.2 p.c., widowed by 22.5 p.c. and divorced by 128.0 p.c. The entry of Newfoundland into Confederation accounted for 3.3 p.c. of the increase in single persons, 2.9 p.c. in married and widowed persons combined and 0.5 p.c. in divorced persons. Other striking statistics of marital status are the excess of married males over married females (largely owing to a preponderance of male immigrants whose wives had yet to join them), the great preponderance of widows compared with widowers and the large and increasing number of divorced persons.

14.—Marital Status of the Population by Age Group and Sex, Census 1951

Age Group and Sex		Single	Married	Widowed	Divorced	Total
		No.	No.	No.	No.	No.
Under 15 years.....	M.	2,168,058	—	—	—	2,168,058
	F.	2,082,659	—	—	—	2,082,659
	T.	4,250,717	—	—	—	4,250,717
15 - 19 "	M.	526,909	5,255	15	1	532,180
	F.	484,056	41,633	83	20	525,792
	T.	1,010,965	46,888	98	21	1,057,972
20 - 24 "	M.	400,136	137,054	197	148	537,535
	F.	267,409	282,290	823	584	551,106
	T.	667,545	419,344	1,020	732	1,088,641
25 - 34 "	M.	294,318	766,504	2,409	2,138	1,065,369
	F.	192,921	901,073	9,496	5,090	1,108,580
	T.	487,239	1,667,577	11,905	7,228	2,173,949
35 - 44 "	M.	134,409	803,711	7,431	3,820	949,371
	F.	113,554	771,939	26,086	6,750	918,329
	T.	247,963	1,575,650	33,517	10,570	1,867,700
45 - 54 "	M.	93,992	613,008	17,637	3,532	728,169
	F.	76,738	539,854	58,437	4,137	679,166
	T.	170,730	1,152,862	76,074	7,669	1,407,335
55 - 64 "	M.	64,748	453,977	36,041	2,122	556,888
	F.	52,010	360,651	105,626	1,667	519,954
	T.	116,758	814,628	141,667	3,789	1,076,842
65 - 69 "	M.	27,706	170,043	29,641	686	228,076
	F.	19,717	115,574	69,783	347	205,421
	T.	47,423	285,617	99,424	1,033	433,497
70 years or over.....	M.	37,133	192,202	93,224	668	323,227
	F.	36,032	106,810	186,419	288	329,549
	T.	73,165	299,012	279,643	956	652,776
All Ages.....	M.	3,747,409	3,141,754	186,595	13,115	7,088,873
	F.	3,325,096	3,119,824	456,753	18,883	6,920,556
	T.	7,072,505	6,261,578	643,348	31,998	14,009,429

Section 10.—Origins

A population composed of diverse racial stocks gives rise to political, economic and social problems quite different in nature from those of one with a small admixture of foreign elements although, to the extent that certain racial stocks are more readily assimilated than others, the problems are mitigated. It is equally true that the different educational, moral, economic, religious and political backgrounds of a people of mixed origins lend variety and diversity to the national life.

The two basic stocks of the Canadian people are the French and the English: historically the French is much the older and excepting at the time of the 1921 Census has always exceeded in numbers any one of the basic British stocks.

For purposes of the census a person's origin or cultural group is traced through his father. For example if a person's father is German and his mother Norwegian the origin is entered as "German". Wherever possible the origin of a person is established by asking the language spoken by the person or by his paternal ancestor when he first came to Canada.

15.—Origins of the Population, Census Years 1931, 1941 and 1951

NOTE.—Figures for the Decennial Censuses 1871-1921 are given in the 1948-49 Year Book, p. 154.

Origin	1931	1941	1951	Origin	1931	1941	1951
	No.	No.	No.		No.	No.	No.
British	5,381,071	5,715,904	6,709,685	Other European—			
English.....	2,741,419	2,968,402	3,630,344	concluded			
Irish.....	1,230,808	1,267,702	1,439,635	Norwegian.....	93,243	100,718	119,266
Scottish.....	1,346,350	1,403,974	1,547,470	Polish.....	145,503	167,485	219,845
Other.....	62,494	75,826	92,236	Roumanian.....	29,056	24,689	23,601
				Russian.....	88,148	83,708	91,279
				Swedish.....	81,306	85,396	97,780
				Ukrainian.....	225,113	305,929	395,043
				Yugoslavic.....	16,174	21,214	21,404
				Other.....	9,392	9,787	35,616
Other European...	4,753,242	5,526,964	6,872,889				
French.....	2,927,990	3,483,038	4,319,167	Asiatic	84,548	74,064	72,827
Austrian.....	48,639	37,715	32,231	Chinese.....	46,519	34,627	32,528
Belgian.....	27,585	29,711	35,148	Japanese.....	23,342	23,149	21,663
Czech and				Other.....	14,687	16,288	18,636
Slovak.....	30,401	42,912	63,959				
Danish.....	34,118	37,439	42,671	Other Origins	157,925	189,723	354,028
Finnish.....	43,885	41,683	43,745	Native Indian and			
German.....	473,544	464,682	619,995	Eskimo.....	128,890	125,521	165,607
Greek.....	9,444	11,692	13,966	Negro.....	19,456	22,174	18,020
Hungarian.....	40,582	54,598	60,460	Other and not			
Icelandic.....	19,382	21,050	23,307	stated.....	9,579	42,028 ¹	170,401
Italian.....	98,173	112,625	152,245				
Jewish.....	156,726	170,241	181,670	Totals	10,376,786	11,506,655	14,009,429
Lithuanian.....	5,876	7,789	16,224				
Netherland.....	148,962	212,863	264,267				

¹ Includes 35,416 half-breeds.

Section 11.—Religious Denominations

At each census the numbers of persons attached to any religious denomination, as reported by the persons enumerated, have been recorded. The distribution of the principal denominations for the census years 1931, 1941 and 1951 is given in Table 16.

16.—Principal Religious Denominations of the Population, Census Years 1931, 1941 and 1951

NOTE.—More detailed figures for the Decennial Censuses 1871-1921 are given in the 1948-49 Year Book, p. 155.

Religious Denomination	1931	1941	1951		Religious Denomination	1931	1941	1951	
	No.	No.	No.	p.c.		No.	No.	No.	p.c.
Adventist.....	16,058	18,485	21,398	0.2	Pentecostal.....	26,349	57,742	95,131	0.7
Baptist.....	443,944	484,465	519,585	3.7	Presbyterian....	872,428	830,597	781,747	5.6
Christian Science	18,499	20,261	20,795	0.1	Roman Catholic.	4,102,960	4,806,431	6,069,496	43.3
Church of Eng-					Salvation Army.	30,773	33,609	70,275	0.5
land in Canada.	1,639,075	1,754,368	2,060,720	14.7	Ukrainian				
Evangelical					(Greek)				
Church.....	22,239	37,064	50,900	0.4	Catholic.....	186,879 ²	185,948 ²	190,831	1.4
Greek Orthodox.	102,529	139,845	172,271	1.2	United Church of				
Jewish.....	155,766	168,585	204,836	1.5	Canada.....	2,021,065	2,208,658	2,867,271	20.5
Lutheran.....	394,920	401,836	444,923	3.2	Other.....	232,424	221,879	280,424	2.0
Mennonite ¹	88,837	111,554	125,938	0.9					
Mormon.....	22,041	25,328	32,888	0.2	Totals	10,376,786	11,506,655	14,009,429	100.0

¹ Includes "Hutterite".² Includes "Other Greek Catholic".

Section 12.—Countries of Birth

The census collects information on the country of birth of immigrant arrivals in Canada and province of birth of Canadian born. For persons born outside of Canada the country of birth, as constituted at the date of the census, is recorded. Table 17 gives the total population by countries of birth for the census years 1931, 1941 and 1951.

17.—Countries of Birth of the Population, Census Years 1931, 1941 and 1951

NOTE.—Figures for the Decennial Censuses 1871-1921 are given in the 1948-49 Year Book, p. 158.

Country of Birth	1931	1941	1951	Country of Birth	1931	1941	1951
	No.	No.	No.		No.	No.	No.
Canada	8,069,261	9,487,808	11,949,518	Europe—concl.			
United Kingdom.....	1,138,942 ¹	960,125 ¹	912,482	Union of Soviet			
Other Common-				Socialist Repub-			
wealth.....	45,888	43,644	20,567	lics ²	133,869	124,402	188,292
Europe.....	714,462	653,705	801,618	Scandinavian			
Belgium.....	17,033	14,773	17,251	countries ³	90,042	72,473	64,522
Finland.....	30,354	24,387	22,035	Central European			
France.....	16,756	13,795	15,650	countries ⁴	317,350	309,360	305,192
Germany.....	39,163	28,479	42,693	Other Europe.....	11,002	9,810	38,143
Greece.....	5,579	5,871	8,594	Asia.....	60,608	44,443	37,145
Italy.....	42,578	40,432	57,789	United States.....	344,574	312,473	282,010
Netherlands.....	10,736	9,923	41,457	Other countries.....	3,051	3,512	6,089
				Totals	10,376,786	11,506,655⁵	14,009,429

¹ Includes the 26 counties of Ireland in 1931 and 1941. ² Includes Lithuania and Ukraine. ³ Includes Denmark, Iceland, Norway and Sweden. ⁴ Includes Austria, Czechoslovakia, Hungary, Yugoslavia, Poland and Roumania. ⁵ Includes "birthplace not stated".

Section 13.—Languages and Mother Tongues

Official language is not to be confused with mother tongue. Mother tongue is the language a person first spoke in childhood and still understands; official language (a term used herein for census purposes) refers only to the English and French languages. The numbers of persons speaking one, both or neither of the official languages are given in Table 18, classified by province.

18.—Population Speaking One, Both or Neither of the Official Languages by Province, Census 1951

NOTE.—Infants are classed as speaking the language of the home.

Province or Territory	Population Speaking—			
	English Only	French Only	English and French	Neither English nor French
	No.	No.	No.	No.
Newfoundland.....	356,377	153	3,990	896
Prince Edward Island.....	88,743	914	8,745	27
Nova Scotia.....	595,257	7,462	39,524	341
New Brunswick.....	318,560	100,712	96,095	330
Quebec.....	462,813	2,534,242	1,038,130	20,496
Ontario.....	4,115,584	78,974	359,965	43,019
Manitoba.....	685,914	7,869	58,441	24,317
Saskatchewan.....	767,248	4,656	40,789	19,035
Alberta.....	868,696	5,922	40,785	24,098
British Columbia.....	1,112,937	727	39,433	12,113
Yukon Territory.....	8,337	10	519	230
Northwest Territories.....	6,929	171	1,031	7,873
Canada	9,387,395	2,741,812	1,727,447	152,775

Mother tongue spoken is dealt with in Table 19 which shows that 1,659,770 persons at June 1, 1951 had neither English nor French as mother tongue.

19.—Mother Tongues of the Population, Census 1951

NOTE.—Infants are classed as speaking the language of the home.

Mother Tongue	Number	Percent- age of Total	Mother Tongue	Number	Percent- age of Total
English.....	8,280,809	59.11	Lithuanian.....	12,307	0.09
French.....	4,068,850	29.04	Magyar.....	42,402	0.30
Chinese.....	28,289	0.20	Netherlander.....	87,935	0.63
Danish.....	15,714	0.11	Norwegian.....	43,831	0.31
Estonian.....	8,784	0.06	Polish.....	129,238	0.92
Finnish.....	31,771	0.23	Roumanian.....	10,105	0.07
Flemish.....	12,623	0.09	Russian.....	39,223	0.28
Gaelic.....	13,974	0.10	Serbo-Croatian.....	11,031	0.08
German.....	329,302	2.35	Slovak.....	45,516	0.32
Greek.....	8,036	0.06	Swedish.....	36,096	0.26
Icelandic.....	11,207	0.08	Syrian and Arabic.....	5,475	0.04
Indian and Eskimo.....	144,787	1.03	Ukrainian.....	352,323	2.51
Italian.....	92,244	0.66	Yiddish.....	103,593	0.74
Japanese.....	17,589	0.12	Other.....	19,356	0.14
Lettish.....	7,019	0.05			
			Totals.....	14,009,429	100.00

Section 14.—Dwellings, Households and Families

A fairly complete summary of the principal statistics on dwellings, households and families recorded at the 1951 Census is given in the 1954 Year Book, pp. 139-145. More detailed information may be found in Vol. III of the 1951 *Census*. The subject is only briefly covered in this Section.

Dwellings and Households.*—The 1941 Census of Housing was based on a 10 p.c. sample of dwellings situated within the nine provinces. For the 1951 Census the size of the sample was increased to 20 p.c. and the coverage included Newfoundland but, as in 1941, did not extend to the Yukon and Northwest Territories. For comparison purposes Newfoundland is omitted from the 1951 figures in Table 20. The number of occupied dwellings in Newfoundland in 1951 totalled 70,980 as against a 1945 figure of 62,293.

Table 20 shows that the increase in the number of dwellings during the 1941-51 decade was 11 p.c. higher than the increase in population thus reducing the number of persons per dwelling from 4.3 to 4.0. Definitional changes between 1941 and 1951 are partly responsible for the relatively larger increase in dwellings particularly of the apartment and flat type. Since owned dwellings increased by 49.1 p.c. and rented dwellings by only 4.2 p.c., it would appear that many people who were tenants in 1941 have since bought homes and that most new homes were built for owners rather than for tenant occupancy.

* 1951 Census definitions are briefly as follows: **DWELLINGS**.—A *Dwelling* is defined as a structurally separate set of living premises with private entrance from outside the building, or from a common hallway or stairway inside. A *Single Detached Dwelling*, commonly called a single house, is a house containing one dwelling unit and completely separated on all sides from any other building or structure. *Apartments and Flats* include dwelling units in apartment blocks, suites in duplexes or triplexes, suites in structurally converted houses, living quarters located in business premises, janitor's quarters in schools, etc. In determining the number of *Rooms* in a dwelling, only those used or suitable for living purposes including rooms occupied by servants, lodgers, or members of lodging families are counted. **HOUSING**.—A *Household* is a person or group of persons occupying one dwelling unit, the number of households thus equalling the number of occupied dwellings. Every person must be a member of some household, whether it consists of a family group with or without servants, lodgers, etc., a group of unrelated persons sharing a dwelling, or one person living alone. A dwelling is classed in need of *Major Repair* if it possesses any one of the following defects: sagging or rotting foundations indicated by cracked or leaning walls; faulty roof or chimney; unsafe outside steps or stairways; interior badly in need of repair. A *Crowded Dwelling* (or Household) is defined as one in which the number of persons exceeds the number of rooms occupied.

20.—Dwelling Characteristics, Census Years 1941 and 1951

(Excludes Newfoundland and the Territories)

Item	1941	1951	Increase 1941-51	
	No.	No.	No.	p.c.
Population.....	11,489,713	13,622,913	2,133,200	18.6
Occupied Dwellings ¹	2,575,744	3,338,315	762,571	29.6
Single detached.....	1,853,454	2,216,275	362,821	19.6
Apartments and flats.....	533,034	881,245	348,211	65.3
Single attached.....	189,256	240,795 ²	51,539	27.2
Owned.....	1,459,357	2,175,415	716,058	49.1
Rented.....	1,116,387	1,162,900	46,513	4.2
Rooms per dwelling.....	5.5	5.3	...	...
Persons per dwelling.....	4.3	4.0	...	...

¹ Exclusive of hotels, institutions, camps, etc. miscellaneous types.² Includes auto-trailers, houseboats, tents and other

The statistics of Table 21 reflect the high level of prosperity throughout the decade in both urban and rural areas. In 1951 a higher percentage of homes had indoor plumbing, electricity and furnace heating, and had such conveniences as mechanical refrigerators, electric vacuum cleaners, telephones, radios, and passenger automobiles. There was a sharp drop in the number of homes needing major repair. Washing machines are not shown in Table 21 because there are no comparable 1941 figures but in 1951, 72.5 p.c. of the dwellings possessed a powered type of washing machine. Though much of this advance may be attributed to general prosperity, part of the explanation of the trend is to be found in the increasing urbanization of the Canadian population and the availability of modern conveniences to rural areas.

21.—Housing Characteristics, Census Years 1941 and 1951

(Excludes Newfoundland and the Territories)

Housing Characteristics	1941		1951		Increase 1941-51	
	No.	P.C. of Total	No.	P.C. of Total	No.	P.C.
Occupied Dwellings—						
In need of major repair.....	695,736	27.0	450,625	13.5	-245,111	-35.2
Crowded dwellings ¹	148,418	18.4	175,995	16.0	27,577	18.6
Dwellings with—						
Electric lighting.....	1,780,667	69.1	2,929,450	87.8	1,148,783	64.5
Furnace heating.....	997,588	38.7	1,632,275	48.9	634,687	63.6
Running water.....	1,558,586	60.5	2,503,080	75.0	944,494	60.6
Flush toilet ²	1,342,198	52.1	2,170,815	65.0	828,617	61.7
Bath or shower ²	1,169,760	45.4	1,926,455	57.7	756,695	64.7
Electric or gas range.....	1,019,421	39.6	1,696,130	50.8	676,709	66.4
Electric or gas refrigeration.....	538,535	20.9	1,589,625	47.6	1,051,090	195.2
Electric vacuum cleaner.....	624,178	24.2	1,409,090	42.2	784,912	125.8
Telephone.....	1,037,298	40.3	2,013,640	60.3	976,342	94.1
Radio.....	2,002,889	77.8	3,086,695	92.5	1,083,806	54.1
Passenger automobile.....	944,591	36.7	1,435,925	43.0	491,334	52.0
Owner-occupied non-farm dwellings reporting a mortgage.....	275,623	31.2	515,035	30.9	239,412	86.9
Monthly Rent of Tenant-Occupied Non-farm Dwellings—						
Under \$30 ³	738,294	75.1	501,540	45.5	-236,754	-32.1
\$30 - \$59.....	221,189	22.5	437,815	39.8	216,626	97.9
\$60 or over.....	24,034	2.4	162,265	14.7	138,231	575.1

¹ For cities of 30,000 or over only. dwellings.² For exclusive use of household.³ Includes "rent-free"

Families.*—The number of families increased at a greater rate during the 1941-51 decade than the general population with the result that the average number of persons per family dropped from 3.9 to 3.7. Table 22 shows that families with no children or with one or two children increased proportionately at the expense of families with three or more children. It is also interesting to note that the increase in number of families was greater than the increase in the number of children in families. This does not necessarily indicate a trend in the birth rate. Other factors have an important bearing, such as the ageing of the population, the great increase in the marriage rate during the years just prior to the 1951 Census, and the tendency for young people to leave the family home for employment elsewhere.

* For census purposes, a *Family* consists of husband and wife (with or without children) or a parent with an unmarried child (or children) living together in the same dwelling. Unmarried sons and daughters under 25 years of age and living with their parents are classed as *Children* as well as wards and guardianship children under 21 years of age. Unmarried sons and daughters, 25 years of age or over, living with their parents are counted as family members but not as children.

22.—Family Characteristics, Census Years 1941 and 1951

(Excludes Newfoundland and the Territories)

Item	1941	1951	Increase 1941-51	
	No.	No.	No.	p.c.
Population.....	11,489,713	13,622,913	2,133,200	18.6
Families.....*	2,525,299	3,207,587	682,288	27.0
Persons per family.....	3.9	3.7	-0.2	--
Children in families.....	4,692,571	5,357,344	664,773	14.2
	p.c.	p.c.		
Percentage of families with—				
No children at home.....	31.2	32.5	...	...
1-2 children ".....	41.1	43.4	...	...
3-4 children ".....	17.0	16.5	...	...
5 or more children ".....	10.7	7.6	...	...

Section 15.—The Blind and Deaf Population

Information was obtained in the 1951 Census for totally blind or deaf persons. Persons blind in one eye for example were not recorded as blind and partially deaf persons, such as those able to hear with the help of a mechanical aid, were not included. Table 23 shows the number and proportion of totally blind and deaf persons per 10,000 population in each province and territory. More detailed information on this subject is contained in Vol. II of the 1951 Census.

23.—Number of Blind and Deaf Persons and Proportion per 10,000 Population by Province 1951

Province or Territory	Number			Number per 10,000 Population		
	Blind	Deaf	Blind and Deaf	Blind	Deaf	Blind and Deaf
Newfoundland.....	513	497	27	14.2	13.8	0.7
Prince Edward Island.....	104	88	4	10.6	8.9	0.4
Nova Scotia.....	943	747	43	14.7	11.6	0.7
New Brunswick.....	744	554	33	14.4	10.7	0.6
Quebec.....	3,734	5,139	199	9.2	12.7	0.5
Ontario.....	4,173	3,897	200	9.1	8.5	0.4
Manitoba.....	712	596	32	9.2	7.7	0.4
Saskatchewan.....	590	628	29	7.1	7.6	0.3
Alberta.....	613	556	21	6.5	5.9	0.2
British Columbia.....	972	907	68	8.3	7.8	0.6
Yukon Territory.....	8	4	—	8.8	4.4	—
Northwest Territories.....	18	3	—	11.2	1.9	—
Canada.....	13,124	13,616	656	9.4	9.7	0.5

Section 16.—The Indians and Eskimos of Canada

The Indians.*—Entry of native tribes into North America probably began as early as 15,000 years ago according to the findings of archaeologists. It is believed that roving bands of hunters, driven from their lands in northeastern Asia, crossed into North America by way of Bering Strait. Ethnic origins of the Indians appear to have varied. Though differences in language were many and varied somewhat from tribe to tribe religious background and traditions seemed to stem from practically the same source.

There are ten linguistic groups of Indians in Canada of which four are east of the Rocky Mountains—Algonkian, Athapaskan, Iroquoian and Siouan—and six are west of the Rockies—Kootenayan, Salishan, Wakashan, Tsimshian, Haida and Tlinkit. Indians of Algonkian stock are the most numerous and are scattered throughout the area from the Atlantic seaboard to the Rocky Mountains. Included in the Algonkian stock are such tribes as the Micmacs of the Maritimes, the Montagnais of Quebec and the Ojibwas, Crees and Blackfeet who live in the Prairie Provinces. The Iroquoian stock, which includes the Hurons, is found mainly in Ontario and Quebec, while tribes of Sioux are located in the Prairie Provinces. The Northwest and Yukon Territories are the usual homelands of the Athapaskan.

According to the 1951 Census there were 155,874 persons of Indian origin in Canada, distributed by province and sex as follows:—

<i>Province</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>	<i>Province</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>
Newfoundland.....	184	174	358	Saskatchewan.....	11,265	10,985	22,250
Prince Edward Island....	136	121	257	Alberta.....	10,743	10,420	21,163
Nova Scotia.....	1,379	1,338	2,717	British Columbia.....	14,602	13,876	28,478
New Brunswick.....	1,164	1,091	2,255	Yukon.....	734	799	1,533
Quebec.....	7,556	7,075	14,631	N.W.T.....	1,913	1,925	3,838
Ontario.....	19,025	18,345	37,370				
Manitoba.....	10,642	10,382	21,024	CANADA.....	79,343	76,531	155,874

These figures include all persons with a paternal ancestor of Indian race, many of whom have long been assimilated and have lost their identity as Indians. The number of persons considered as Indians under Indian legislation is placed (1955) at 151,558. They are divided into about 600 Bands and live on 2,223 reserves set aside for their use and benefit.

Administration.—The primary function of the Indian Affairs Branch, under the Citizenship and Immigration Act and the Indian Act, is to administer the affairs of the Indians of Canada in a manner that will enable them to become increasingly self-supporting and independent. The functions of the Branch include the management of Indian reserves and surrendered lands, trust funds, welfare projects, relief, family allowances, education, descent of property, rehabilitation of Indian veterans on reserves, Indian treaty obligations, enfranchisement of Indians and other matters.

The Indian Act currently in effect was drafted following inquiry into Indian affairs by a Special Joint Committee of the Senate and the House of Commons during 1946, 1947 and 1948 and subsequent conferences with representative Indian groups. Proclaimed Sept. 4, 1951, the new Act succeeds an Act that was first consolidated in 1876 and amended from time to time.

* Prepared in the Indian Affairs Branch, Department of Citizenship and Immigration, Ottawa.

The Indian Act provides a measure of self-government on reserves through Band councils chosen according to tribal custom or under an elective system of secret ballot. The various expenditures of Band funds with few exception require the consent of the Band council, comprising a chief and councillors. The right to vote in Band elections and other votes is extended to all members of a Band, men and women, who have reached the age of twenty-one years. A number of Indian women have been elected to office since the new Act came into force. Secrecy of voting has been provided under election regulations. The powers of Band councils to make by-laws correspond in a general way with those exercised by councils in a rural municipality.

Indians who are veterans of World Wars I or II and their wives may vote in federal elections. Indians who live off the reserve, under certain circumstances, also have the right to vote while Indians who live on the reserve may vote if they waive exemption to taxation on personal property such as earnings or other incomes received on the reserve. Indians may sue and be sued subject to provisions of the Indian Act which exempts from seizure real and personal property held on the reserve.

Enfranchisement, the removal of all legal distinction between Indians and other members of the community, is provided for under the Indian Act. An enfranchised Indian is no longer subject to the provisions of the Act. In order to facilitate enfranchisement of Indian Bands agreements may be entered into with provincial or municipal authorities to provide financial assistance to indigent, infirm, or aged members of the enfranchised Band.

The nomadic existence followed by Bands of Indian hunters is gradually giving way to a more stable way of life. Many Indians are profitably engaged in the fishing industry on the British Columbia coast; Indians across Canada are being encouraged to engage in agricultural pursuits and are prominent in many other trades and occupations. For example the reputation of the Indians from the Caughnawaga Reserve, near Montreal, as skilful structural steel workers is known throughout North America.

The Indian Affairs Branch takes a census of the Indian population under its jurisdiction at five-year intervals. The figures for the 1955 Census are given in Tables 24 and 25.

24.—Indian Population classified by Age Group and Sex by Province, Departmental Census 1955

Province or Territory	Under 7 Years		7 Years and Under 16		16 Years and Under 21		21 Years and Under 65		65 Years or Over		Totals	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
P.E. Island.....	21	19	30	31	13	16	67	58	10	7	141	131
Nova Scotia.....	310	308	326	311	181	185	642	608	74	57	1,533	1,469
New Brunswick....	305	294	284	285	141	136	591	486	55	52	1,376	1,253
Quebec.....	1,784	1,743	1,833	1,853	931	967	4,014	3,478	499	472	9,061	8,513
Ontario.....	3,487	3,499	3,833	4,030	2,193	2,055	8,271	7,570	1,250	1,067	19,034	18,221
Manitoba.....	2,377	2,397	2,282	2,303	972	930	4,061	3,440	465	457	10,157	9,527
Saskatchewan.....	2,180	2,142	2,204	2,221	912	962	3,799	3,536	412	382	9,507	9,243
Alberta.....	1,912	1,996	1,809	1,864	794	788	3,090	2,805	346	311	7,951	7,764
British Columbia....	3,614	3,587	3,534	3,642	1,488	1,494	6,581	5,652	780	714	15,997	15,089
Yukon Territory....	144	170	176	190	81	78	327	310	49	43	777	791
N.W.T.....	442	400	420	404	179	175	932	835	119	117	2,092	1,931
Totals.....	16,576	16,555	16,731	17,134	7,885	7,786	32,375	28,778	4,059	3,679	77,626	73,932

25.—Religious Denominations of the Indian Population, Departmental Census 1955

Province or Territory	Church of England	Baptist	United Church	Presbyterian	Roman Catholic	Other Christian Beliefs	Aboriginal Beliefs	Totals
	No.	No.	No.	No.	No.	No.	No.	No.
Prince Edward Island.....	—	—	—	—	272	—	—	272
Nova Scotia.....	—	—	—	—	3,002	—	—	3,002
New Brunswick.....	—	—	—	—	2,629	—	—	2,629
Quebec.....	3,383	—	425	—	13,482	141	143	17,574
Ontario.....	11,313	1,960	7,038	622	12,917	1,232	2,173	37,255
Manitoba.....	5,855	2	5,090	846	7,250	564	77	19,684
Saskatchewan.....	5,532	37	1,604	251	10,150	81	1,095	18,750
Alberta.....	2,037	143	1,917	—	11,225	127	266	15,715
British Columbia.....	6,025	—	6,310	—	17,959	792	—	31,086
Yukon Territory.....	1,165	84	1	—	314	—	4	1,568
Northwest Territories.....	711	—	—	—	3,310	—	2	4,023
Totals.....	36,021	2,226	22,385	1,719	82,510	2,937	3,760	151,558

26.—Indian Lands and Property by Class and Province, Year Ended Mar. 31, 1955

Province or Territory	Land					Property			
	Reserves	Under Wood	Cleared but not Cultivated	Under Cultivation	Total Area of Reserves	Private Houses	Churches	Council Houses	Saw-mills
	No.	acres	acres	acres	acres	No.	No.	No.	No.
P.E. Island.....	4	1,721	820	200	2,741	55	1	1	—
Nova Scotia.....	40	16,973	1,439	762	19,492	522	10	—	4
New Brunswick.....	23	33,089	1,132	287	37,725	442	5	3	—
Quebec.....	22	138,001	11,799	5,844	179,647	2,185	22	5	2
Ontario.....	164	1,173,855	107,020	40,719	1,559,151	5,868	115	53	25
Manitoba.....	107	306,369	153,767	30,375	524,134	3,787	71	17	14
Saskatchewan.....	120	420,883	594,641	177,937	1,204,562	3,388	61	17	6
Alberta.....	90	561,322	757,694	164,037	1,516,698	3,264	38	19	3
British Columbia.....	1,628	405,163	259,008	39,024	821,410	6,349	167	88	35
Yukon and Northwest Territories..	25	4,955	57	9	5,460	403	—	4	—
Totals.....	2,223	3,062,331	1,887,377	459,194	5,871,020	26,263	490	207	89

Education.—The proportion of Indians who have become satisfactorily adjusted to modern conditions is of course greater among those who have taken full advantage of the Federal Government's educational program. Residential schools are available to Indian children from broken homes, orphans or those who, because of isolation or the nomadic way of life of their parents, would otherwise be unable to attend school. For children who can live at home the Federal Government operates day schools in Indian communities. Alternatively, where conditions are favourable, arrangements are made with local educational authorities for Indian children to attend non-Indian schools. An increasing number of Indian children in the elementary grades have been admitted to schools where other children are enrolled and the majority of Indian children attending secondary school and college classes are educated in association with non-Indians. The Federal Government pays the charges for school fees and books, necessary transportation and, for some students who must live away from home, part or all of the cost of room and board.

Similar assistance is given to Indian young people to encourage them to obtain vocational and professional training. Of those who have qualified as school teachers 63 are now serving in Indian schools. Indians have qualified in medicine, dentistry, nursing, agriculture and other professions. Preference in appointment to positions in the Indian service is given to qualified Indians.

In the year ended Mar. 31, 1955 there were 474 Indian schools in operation, comprising 69 residential schools, 368 regular day schools, 24 seasonal schools and 13 hospital schools. The enrolment in residential schools was 10,501 and in all other schools, 17,947. Enrolment by province was: P.E.I., 42; N.S., 633; N.B., 433; Que., 2,348; Ont., 6,298; Man., 4,155; Sask., 3,891; Alta., 3,917; B.C., 5,836; Y.T., 278; and N.W.T., 617.

27.—Enrolment and Average Attendance at Indian Schools, Years Ended Mar. 31, 1946-55

Year	Residential Schools		Day Schools		All Schools		
	Enrolment	Average Attendance	Enrolment	Average Attendance	Enrolment	Attendance	
						No.	P.C. of Enrolment
	No.	No.	No.	No.	No.		
1946	9,149	8,264	9,656	6,779	18,805	15,043	80.0
1947	9,304	8,192	10,318	7,449	19,622	15,641	79.7
1948	8,986	7,863	11,115	8,296	20,101	16,159	80.3
1949	9,368	8,345	12,615	10,414	21,983	18,759	85.3
1950	9,316	8,593	14,093	12,060	23,409	20,653	88.2
1951	9,357	8,779	15,514	13,526	24,871	22,305	89.7
1952	9,844	9,175	15,746	13,673	25,590	22,848	89.3
1953	10,112	9,309	15,837	13,826	25,949	23,135	89.2
1954	11,090	9,516	17,084	14,541	28,174	24,057	85.4
1955	10,501	9,878	17,947	16,254	28,448	26,132	91.9

In addition to pupils in Indian schools there were 2,892 Indian children enrolled in elementary grades in provincial and private schools and 1,185 in secondary schools, making a total enrolment of Indians in educational classes of 32,525. In the year ended Mar. 31, 1955 there were 1,849 Indians receiving secondary and higher education.

Welfare.—During 1954, 21,728 Indian families received \$3,995,708 in Family Allowances on behalf of 65,839 children. These payments contributed substantially to a better balanced diet and better clothing for Indian children. Approximately \$3,000,000 is paid annually to Indians in the form of blind persons' allowances, old age assistance and old age security payments. When necessary the Government provides direct relief assistance to Indians in the form of food, fuel, clothing and household equipment. The Indian Affairs Branch also makes arrangements for private foster-home and institutional placement of children, juvenile delinquents, cripples and unemployable and aged adults. Assistance is also provided for unmarried mothers and for the rehabilitation of disabled Indians. Increasing emphasis is being placed on the importance of the suitable placement of children requiring protection and upon the importance of preventive work in the field of juvenile delinquency.

Policy and procedure were continued regarding provision of special foods as a preventive measure against tuberculosis. Apart from the humanitarian aspect the policy has as its aim a reduction in the number of new cases. A well nourished body is not an easy victim of disease.

Improvement in housing conditions has been achieved recently through the efforts of the Indians themselves as a result of expenditures from government appropriations, from Indian Band funds, and through Veterans' Land Act benefits. Costs of house repairs during the year ended Mar. 31, 1954 amounted to \$254,902 and the value of new houses built on the various reserves was estimated at \$1,539,442. Revolving Fund loans are available for the purchase of farm machinery, implements, gas and oil, fencing materials, seed grain, livestock and similar essentials, and also for payment of wages and repairs to buildings and vehicles.

Fur Conservation.—During 1954 the fur conservation program, undertaken in co-operation with the various provinces, was continued. Approximately 157,291 beaver pelts valued at \$1,385,920 were taken in Saskatchewan, Manitoba and Ontario. In

addition, about 1,469,000 muskrats valued at \$1,312,000, were trapped in Manitoba and Saskatchewan. Indian participation in the three provinces from the trapping of these fur-bearers was valued at about \$1,430,000. In Quebec nine fur preserves with a total area of approximately 150,000 sq. miles are set aside exclusively for Indian trappers under joint management by the Indian Affairs Branch and the Quebec Department of Fish and Game. The six areas in production during 1954 produced over 17,000 beaver which brought more than \$215,000 to the Indian trappers.

Eight full time supervisors are employed across Canada to assist the Indians to derive the fullest possible benefits from hunting and trapping.

The Eskimos.*—The Eskimos are only a fragment of the total population of Canada numbering, according to the 1951 Census, only 9,733 persons. However they are part of the human resources of the country and as such are entitled to the benefits of Canadian citizenship and to assistance in adapting themselves to changing conditions. They, together with the Indians, represent the original inhabitants of Canada and their ingenuity and resourcefulness are illustrated by the fact that they have maintained their existence against a harsh unrelenting climate in a region where food, being almost entirely fish or animal, requires great skill to obtain and is most unpredictable in its availability. Advancing civilization has however brought many problems to Canada's northernmost citizens who have been literally translated from the Stone Age to the Atomic Age in a period of 40 to 50 years, and to these problems the Federal Government has been giving increasing attention.

The Northern Administration and Lands Branch of the Department of Northern Affairs and National Resources is responsible for the administration of Eskimo affairs. The Department of National Health and Welfare is responsible for health and medical services. Royal Canadian Mounted Police detachments throughout the north undertake field duties for both Departments. In fact the problems involved in looking after a sparse Eskimo population scattered over about 900,000 sq. miles of territory require the continuous co-operation of all northern inhabitants—teachers, missionaries, traders, doctors, nurses, radio operators and weather station personnel. Administrative contact is maintained by radio and through the Eastern Arctic Patrol which carries representatives of the Administration and other government departments on an annual inspection tour. Officers of the Administration also make periodic visits to Arctic posts by air.

Family allowances are paid to most Eskimos in kind from a list designed to supplement rather than to supplant the normal native diet. Eskimos also enjoy the full benefits of old age security and old age assistance payments and of allowances for blind persons.

Missions assisted by Government grants operate hospitals at Aklavik, Chesterfield Inlet and Pangnirtung and the Department of National Health and Welfare has nursing stations at Coppermine, Fort Chimo, Coral Harbour, Port Harrison, Cape Dorset and Lake Harbour. Tuberculosis and other medical surveys are carried out from year to year and treatment where necessary is provided either at the hospitals within the territory or at larger institutions outside.

An Arctic Division has been established by the Department of Northern Affairs and National Resources to study and deal expressly with Eskimo problems. The Division has the benefit of the advice of a continuing advisory committee composed of representatives of organizations, government and private, concerned with the Eskimos. Efforts are being made to encourage self-sufficiency of the Eskimo by better utilization of the existing resources of the country and the development of small local industries such as whaling, fishing, boat-building, manufacture of clothing, eiderdown collecting and art handicrafts. Eskimos in overpopulated or depleted areas are being encouraged and assisted to move to areas where game is more plentiful or where employment may be found. A fund has been established from which loans may be made to assist Eskimos to carry out approved projects for the betterment of their economy.

* Prepared in the Editorial and Information Division, Department of Northern Affairs and National Resources, Ottawa. See also the special article "The Northland—Canada's Challenge", pp. 22-32 of the 1955 Year Book.

Since 1945 the Government has built eight schools primarily for Eskimo children. They are located at centres spread from the Mackenzie delta in the west to northern Quebec—Aklavik, Tuktoyaktuk, Coppermine, Chesterfield Inlet, Coral Harbour, Cape Dorset, Port Harrison and Fort Chimo. Missions assisted by government grants also operate schools in many Eskimo settlements as well as two industrial homes, one at Chesterfield Inlet and the other at Pangnirtung, where aged and physically handicapped Eskimos are cared for. Considerable attention has been given in recent years to the study and conservation of the wildlife resources upon which the Eskimo depends for his livelihood. Game preserves have been established where only natives may hunt and trap and encouragement is given to the observance of hunting practices designed to conserve the supply of game and fish.

Section 17.—Statistics of World Population

World population figures given in Table 28 are from the United Nations *Population and Vital Statistics Reports* for April 1955 and except as otherwise noted are official mid-year estimates for 1953. The area figures are from the United Nations *Statistical Yearbook, 1954*.

28.—Areas and Populations of the Countries or Areas of the World 1953

Continent and Country	Area	Population	Continent and Country	Area	Population
	sq. miles	'000		sq. miles	'000
Africa			Africa—concl.		
SELF-GOVERNING TERRITORIES—			NON-SELF-GOVERNING TERRITORIES—concl.		
Egypt.....	386,101 ¹	21,935	United Kingdom—concl.		
Eritrea.....	47,877	1,104 ²	Mauritius and dependencies..	809	533
Ethiopia.....	409,287	15,000 ²	Nigeria, colony and protectorate.....	339,156	30,000
Liberia.....	43,000	1,648 ²	Northern Rhodesia.....	290,309	2,020
Libya.....	679,360	1,500	Nyasaland.....	49,175	2,512
Union of South Africa.....	472,667	13,153	St. Helena and dependencies.....	81	5
NON-SELF-GOVERNING TERRITORIES AND DEPENDENCIES—			Seychelles, colony and protectorate.....	156	37
Belgium—			Sierra Leone, colony and protectorate.....	27,924	2,025 ²
Belgian Congo.....	904,994	12,154	Southern Rhodesia.....	150,327	2,260
France—			Swaziland.....	6,704	2,207
Algeria.....	846,126	9,367	Uganda.....	93,977	5,343
Comoro Islands.....	834	166	Zanzibar and Pemba.....	1,020	274
French Equatorial Africa ³ ..	969,114	4,492 ²	TRUST TERRITORIES—		
French Somaliland.....	8,494	65	Cameroons (Br. Adm.).....	34,060	1,441
French West Africa ⁴	1,831,084	17,435 ²	Cameroons (Fr. Adm.).....	166,796	3,120 ²
Madagascar.....	227,738	4,464 ²	Ruanda-Urundi (Belg. Adm.)	20,916	4,148
Morocco.....	150,888	8,220 ⁵	Somaliland (Ital. Adm.).....	198,276	1,269
Réunion.....	969	242 ²	Tanganyika (Br. Adm.).....	362,675	8,069
Tunisia.....	60,166	3,630	Togoland (Br. Adm.).....	13,041	416
Portugal—			Togoland (Fr. Adm.).....	21,236	1,031 ²
Angola.....	481,352	4,205	FORMER MANDATED TERRITORY (Union of South Africa)—		
Cape Verde Islands.....	1,557	160	South West Africa.....	317,713	438
Mozambique.....	297,732	5,895	CONDOMINIUM—		
Portuguese Guinea.....	13,948	529	Anglo-Egyptian Sudan.....	967,453	8,820 ²
São Tomé and Príncipe.....	372	55 ²	INTERNATIONAL ADMINISTRATION—		
Spain—			Tangier.....	135	184
Possessions in North Africa ⁶ .	82	141 ²	America, North		
Spanish Guinea ⁷	10,831	204	SELF-GOVERNING TERRITORIES—		
Spanish Morocco ⁸	7,589	1,022 ²	Canada.....	3,845,774	14,781
Spanish West Africa.....	115,975 ²	82 ²	Costa Rica.....	19,695	881
United Kingdom—			Cuba.....	44,218	5,807 ²
Basutoland.....	11,716	585	Dominican Republic.....	18,816	2,291
Bechuanaland.....	274,981	293	El Salvador.....	8,061	2,052
British Somaliland.....	67,997	640			
Gambia, colony and protectorate.....	4,003	262			
Gold Coast, colony and protectorate.....	78,799	4,062			
Kenya, colony and protectorate.....	224,952	5,851			

For footnotes, see end of table, p. 177.

28.—Areas and Populations of the Countries or Areas of the World 1953—continued

Continent and Country	Area	Population	Continent and Country	Area	Population
	sq. miles	'000		sq. miles	'000
America, North—concl.			Asia—concl.		
SELF-GOVERNING TERRITORIES—concl.			SELF-GOVERNING TERRITORIES—concl.		
Guatemala.....	42,042	3,048	Ceylon.....	25,331	8,155
Haiti.....	10,714	3,227	China (including Taiwan and Pescadores).....	3,759,191	463,493 ²
Honduras.....	43,277	1,557	India ¹⁰	1,289,597	372,000
Mexico.....	760,375	28,053	Indonesia.....	575,894	79,900
Nicaragua.....	57,143	1,166	Iran.....	629,345	20,253
Panama ¹⁰	29,141	864	Iraq.....	168,114	4,882 ²
United States.....	3,022,275	158,320	Israel.....	7,984	1,650
NON-SELF-GOVERNING TERRITORIES AND DEPENDENCIES—Denmark—			Japan.....	142,202	86,700
Greenland (became a department of Denmark in June 1953).....	840,001	25	Jordan.....	37,264	1,360
France—			Korea.....	85,248	29,291 ¹²
Guadeloupe and dependencies.....	687	278 ²	Kuwait.....	8,000	150 ⁹
Martinique.....	425	262 ²	Laos.....	91,429	1,260 ⁹
St. Pierre and Miquelon.....	93	5 ²	Lebanon.....	4,015	1,353
Netherlands—			Maldiv Islands.....	115	87
Netherlands Antilles ¹¹	366	178	Mongolian People's Republic..	591,121 ¹³	910 ⁹
United Kingdom—			Muscat and Oman.....	82,008	550
Bermuda.....	20	39 ¹²	Nepal.....	54,054	7,000 ⁹
British Honduras.....	8,867	75	Pakistan ¹⁷	364,363	75,842 ²
British West Indies.....	12,498	2,902	Philippines.....	115,600	21,039
United States—			Qatar.....	8,500 ⁹	20 ⁹
Alaska.....	586,378	205 ¹³	Saudi Arabia.....	617,762	7,000 ²
Canal Zone.....	553	57 ¹³	Syria.....	70,014	3,535 ¹³
Puerto Rico.....	3,435	2,229 ¹³	Thailand.....	198,456	19,556
Virgin Islands (U.S.) ¹⁴	133	25 ¹³	Trucial Oman.....	5,792 ⁹	80 ⁹
America, South			Turkey (in Asia).....	287,118	19,308 ²
SELF-GOVERNING TERRITORIES—			Vietnam.....	127,259	25,000 ²
Argentina.....	1,084,362	18,393	Yemen.....	75,290	4,500 ²
Bolivia.....	424,163 ^P	3,107	NON-SELF-GOVERNING TERRITORIES AND DEPENDENCIES—		
Brazil.....	3,288,050	55,772 ¹⁵	Netherlands—		
Chile.....	286,397	6,072	New Guinea.....	159,375	700 ⁹
Colombia.....	439,520	12,108	Portugal—		
Ecuador.....	104,506 ^P	3,464	Macau.....	6	200 ⁹
Paraguay.....	157,047	1,496	Portuguese India.....	1,538	641
Peru.....	506,190	9,035	Portuguese Timor.....	7,332	459
Uruguay.....	72,172	2,525	United Kingdom—		
Venezuela.....	352,143	5,440 ¹⁵	Aden, colony and protectorate.....	122,075	800
NON-SELF-GOVERNING TERRITORIES AND DEPENDENCIES—			Brunei.....	2,226	51 ⁹
France—			Cyprus.....	3,572	506
French Guiana.....	35,135	29 ²	Federation of Malaya ¹⁹	50,688	5,706
Netherlands—			Hong Kong.....	391	2,250 ¹²
Surinam.....	55,144	234 ⁹	North Borneo.....	29,387	355
United Kingdom—			Sarawak.....	47,069	592
British Guiana.....	82,997	460	Singapore ²⁰	292	1,123
Falkland Islands, excluding dependencies.....	4,618	2	FORMER MANDATED TERRITORY (U.K.)—		
Asia			Palestine.....	10,459	1,912 ²
SELF-GOVERNING TERRITORIES—			MILITARY GOVERNMENT (U.S.)—		
Afghanistan.....	250,966 ⁹	12,000 ²	Ryukyu Islands ²¹	1,319	962
Bahrain.....	231	112	Europe		
Bhutan.....	19,305 ⁹	300 ⁹	SELF-GOVERNING TERRITORIES—		
Burma.....	261,747	19,045	Albania.....	11,100	1,250 ⁹
Cambodia.....	53,668	3,860 ⁹	Andorra.....	175	5 ⁹
			Austria.....	32,375	6,954 ⁸
			Belgium.....	11,779	8,775 ⁸
			Bulgaria.....	42,796	7,450 ⁹
			Czechoslovakia.....	49,354	12,340 ²
			Denmark (including Faeroe Islands).....	17,118	4,402 ²

For footnotes, see end of table, p. 177.

28.—Areas and Populations of the Countries or Areas of the World 1953—concluded

Continent and Country	Area	Population	Continent and Country	Area	Population
	sq. miles	'000		sq. miles	'000
Europe—concl.			Oceania		
SELF-GOVERNING TERRITORIES			SELF-GOVERNING TERRITORIES—		
—concl.			Australia (excluding Aborigines).....	2,974,471	8,829
Finland.....	130,120	4,141	New Zealand.....	103,469	2,047
France ²²	212,736	42,860			
Saar.....	991	976 ⁵	NON-SELF-GOVERNING TERRITORIES AND DEPENDENCIES—		
Germany.....	136,476	69,545 ⁹	Australia—		
West Berlin.....	186	2,233 ⁵	Norfolk.....	14	1
Eastern Germany ²³	41,571	18,318 ⁹	Papua.....	90,537	397
Western Germany ²⁴	94,719	48,994 ⁵			
Greece.....	51,182	7,819	France—		
Hungary.....	35,912	9,585	French Oceania ²⁵	1,544	63 ²
Iceland.....	39,768	150 ⁵	New Caledonia and dependencies.....	7,202	65 ²
Ireland (Republic).....	27,136	2,942			
Italy.....	116,225	48,071	New Zealand—		
Liechtenstein.....	61	14	Cook Islands.....	100	15
Luxembourg.....	998	304 ⁵	Niue.....	100	5
Monaco.....	0.4	22	Tokelaw Islands.....	4	2
Netherlands.....	12,510 ²⁵	10,488 ⁵			
Norway.....	125,065	3,359 ⁵	United Kingdom—		
Poland.....	120,350	26,500 ²	British Solomon Islands.....	11,500	103 ⁹
Portugal ²⁶	35,579	8,621	Fiji Islands.....	7,040	317
Roumania.....	91,700	16,500 ⁹	Gilbert and Ellice Islands.....	389	37
San Marino.....	24 ⁹	13 ⁹	Tonga.....	269	51 ⁹
Spain ²⁷	194,232	28,528			
Sweden.....	173,437	7,171 ⁵	United States—		
Switzerland.....	15,941	4,877 ⁵	American Samoa.....	76	19 ⁵
Turkey (in Europe).....	9,068	1,626 ²	Guam.....	206	33 ⁵
United Kingdom ²⁸	94,209	50,857 ²⁹	Hawaii.....	6,423	523 ⁵
England and Wales.....	58,341	44,090			
Northern Ireland.....	5,458	1,384	TRUST TERRITORIES—		
Scotland.....	30,410	5,118	Nauru (Aust. Adm.).....	8	3
Vatican City.....	--	1 ⁹	New Guinea (Aust. Adm.).....	93,050 ²⁵	1,155
Yugoslavia ³⁰	98,608	16,991	Pacific Islands (U.S. Adm.) ³¹	680 ²⁴	58
			Western Samoa (N.Z. Adm.).....	1,130	90
NON-SELF-GOVERNING TERRITORIES AND DEPENDENCIES—					
Norway—			CONDOMINIUM—		
Svalbard, and Jan Mayen Land.....	24,101	31	New Hebrides (Anglo French).....	5,700	50
United Kingdom—			Union of Soviet Socialist Republics		
Channel Islands.....	75	106			
Gibraltar.....	2	24 ¹²	Union of Soviet Socialist Republics.....	8,598,701	216,000 ²
Isle of Man.....	221	56			
Malta and Gozo.....	122	317 ¹²			

¹ Inhabited and cultivated territory: 13,442 sq. miles. ² Latest official estimate. ³ Comprising Chad, Gabon, Middle Congo and Ubangi-Shari. ⁴ Comprising Dahomey, French Guinea, French Sudan, Ivory Coast, Mauritania, Niger, Senegal and Dakar, and Upper Volta. ⁵ *De jure* population. ⁶ Includes Alhucemas, Ceuta, Chafarinas, Melilla and Peñon de Velez de la Gomera. ⁷ Includes Annobon, Corisco Elobeyes, Fernando Pó and Rio Muni. ⁸ Northern Zone only. Population of Southern Zone approximately 13,000. ⁹ Unofficial estimate. ¹⁰ Excludes Canal Zone shown separately. ¹¹ Includes Aruba, Bonaire, Curaçao, Saba, St. Eustatius and part of St. Martin. ¹² Civilian population only. ¹³ *De jure* population, including U.S. armed forces stationed in the area. ¹⁴ Includes St. Croix, St. John and St. Thomas. ¹⁵ Excludes Indian jungle population. ¹⁶ Excludes Karikal, Mahé, Pondichéry and Yanam which became part of India on Nov. 1, 1954 (population estimated at 323,000 in 1952). Includes Kashmir-Jammu (area 92,776 sq. miles, population estimated at 4.4 millions at Mar. 1, 1951) of which the political status is not yet determined. ¹⁷ Excludes Kashmir-Jammu, Gilgit, Baltistan, Junagadh and Manavadar and large river areas in East Bengal. ¹⁸ Excludes nomads and semi-nomads estimated at 288,400 in 1945. ¹⁹ Southern part of Malay Peninsula excluding Singapore. ²⁰ Includes Singapore Island, Christmas and Cocos-Keeling Islands. ²¹ Includes islands of the Ryukyu group south of the 29th parallel of N. latitude. ²² Excludes the Saar shown separately. ²³ Democratic Republic of Germany. ²⁴ Federal Republic of Germany. ²⁵ Land area only. ²⁶ Includes the Azores and Madeira Islands. ²⁷ Includes the Balearic and Canary Islands. ²⁸ Excludes Channel Islands and Isle of Man shown separately. ²⁹ Includes armed forces overseas but excludes Commonwealth and foreign forces in the country. ³⁰ Excludes former Yugoslav Zone of Territory of Trieste which became part of Yugoslavia in October 1954, population estimated at 73,500 in 1940. ³¹ Inhabited only during winter season. ³² Includes Austral, Gambier, Marquesas, Rapa, Society and Tuamotu Islands. ³³ Includes the Carolines, Marianas and Marshall Islands. ³⁴ Inhabited dry land area only.

Estimated Population of the World by Continents.—The statement below, published by the United Nations, presents estimates of the 1953 mid-year population by continental divisions (except USSR). These continental totals are not always the sum of the estimates for individual countries given in Table 28 because wherever it was considered necessary adjustments have been made in order to arrive at the most reasonable estimates under existing circumstances. The world total must be regarded as only an approximate estimate, the data for Africa and Asia being subject to considerable error.

Africa.....	208,000,000
North America.....	229,900,000
South America.....	118,100,000
Asia (exclusive USSR).....	1,307,000,000
Europe (exclusive USSR).....	403,100,000
Oceania.....	13,900,000
WORLD TOTAL ¹.....	2,493,000,000

¹ Includes a Dec. 31, 1953 estimate for USSR (213,000,000) and the latest (1948) official estimate for China.

CHAPTER IV.—IMMIGRATION AND CITIZENSHIP

CONSPECTUS

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SECTION 1. IMMIGRATION POLICY AND ADMINISTRATION.....	179	SECTION 1. THE CANADIAN CITIZENSHIP ACT.....	191
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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

PART I.—IMMIGRATION AND EMIGRATION

The history of immigration is given briefly in the 1948–49 Year Book at pp. 172–173 and a special article in the 1955 Year Book at pp. 164–166 gives an account of immigration in the postwar years 1945–54.

Section 1.—Immigration Policy and Administration*

Admission of Immigrants.—Immigrants are brought to Canada through a flexible immigration policy administered for the Federal Government by the Immigration Branch of the Department of Citizenship and Immigration.

Regulations established by the authority of the Immigration Act permit the admission to Canada, as immigrants, of British subjects by birth or naturalization in the United Kingdom, Australia, New Zealand and South Africa, citizens of Ireland, citizens of France born in France or in the Islands of St. Pierre and Miquelon and citizens of the United States of America provided they are of good health and character and have sufficient means to maintain themselves until they are established in this country. Certain relatives of legal residents of Canada may also be admitted and in addition large numbers of immigrants are settled in Canada through the pursuit of an active policy of selection of individuals found to be suitable and desirable in terms of social, economic and labour conditions in this country. Selected immigrants must be of a type that will be integrated

* Revised in the Immigration Branch under the direction of Laval Fortier, Deputy Minister, Department of Citizenship and Immigration, Ottawa.

readily into the community and will be able to assume the duties and responsibilities of Canadian citizenship within a reasonable time after admission. The immigration of Asians to Canada is covered by special procedures.

To implement the regulations the Immigration Branch maintains examining offices at twenty-one overseas posts: at London, Liverpool, Glasgow, Belfast and Dublin; and at Paris, Brussels, Berne, The Hague, Oslo, Copenhagen, Stockholm, Helsinki, Hanover, Karlsruhe, Vienna, Rome, Athens, Tel Aviv, New Delhi and Hong Kong. Personnel at these posts are advised continuously of economic conditions and settlement possibilities in Canada and, through a system of rotation and training, are returned to Canada from time to time for tours of study which enable them to keep up with developments. Specially trained officers are directly engaged in placement and settlement work in Canada and close liaison is maintained between overseas posts and the various immigration offices in Canada. There are 345 ports of entry on both coasts and along the International Boundary to handle the immigration movement and the heavy tourist traffic.

Administration.—The responsibility for all immigration matters under the provisions of the Immigration Act rests with the Minister of Citizenship and Immigration. The Immigration Branch, one of the four branches which compose the Department of Citizenship and Immigration, administers this Act. Headquarters of the Immigration Branch is at Ottawa.

A primary objective of administration is to assist immigrants to become settled quickly and satisfactorily in the Canadian community. The Federal Government continues its interest in them through the work of the Immigration Branch Settlement Service, the Canadian Citizenship Branch and the Canadian Citizenship Registration Branch of the Department of Citizenship and Immigration and the National Employment Service of the Department of Labour. Liaison is maintained between the Federal Government and provincial authorities and private organizations with a view to co-ordinating the efforts of each in immigrant settlement.

Section 2.—Immigration Statistics

The numbers of immigrant arrivals in Canada year by year from 1910 to 1954 are shown in Table 1 and Tables 2 to 8 provide statistical analyses of the content of the immigration movement in recent years. The numbers of persons refused admission at ports of entry and those deported from Canada during 1952 to 1954 are given in Table 9.

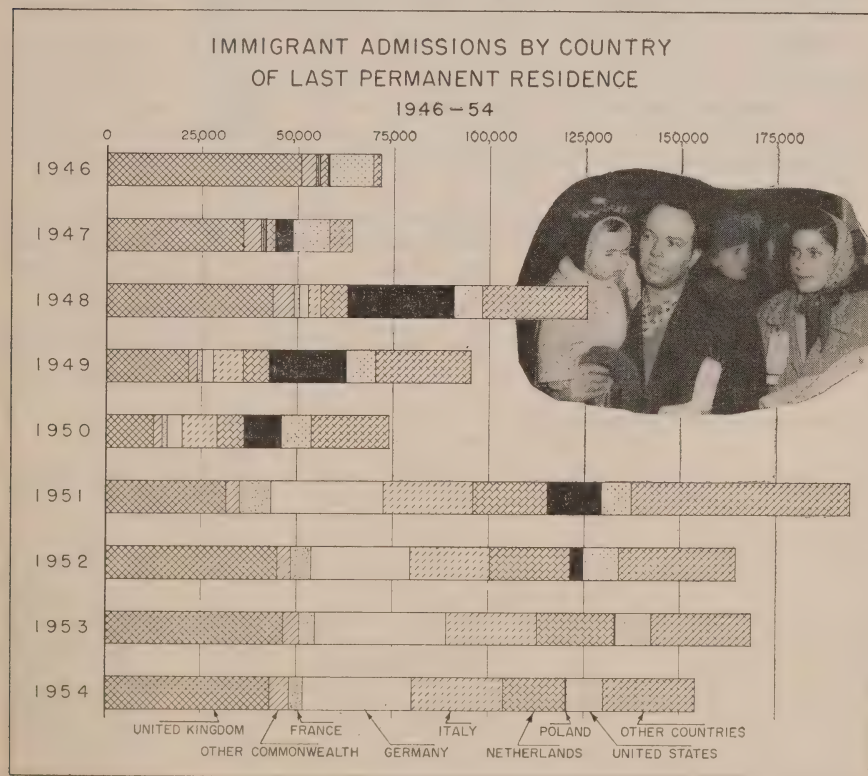
During the period 1910 to 1954, 4,561,162 immigrants were admitted to Canada. The annual influx ranged from a high of 400,870 in 1913 to a low of 7,576 in 1942, the average yearly intake for the period being 101,357. The total number of immigrant arrivals in the postwar period 1946 to 1954 was 1,112,373, representing an average of 123,599 a year. The fluctuations in immigration caused by national and international conditions are clearly visible in Table 1.

1.—Immigrant Arrivals 1910-54

NOTE.—Figures for 1852-93 are given in the 1942 Year Book, p. 153 and for 1894-1909 in the 1948-49 edition, p. 175.

Year	Arrivals	Year	Arrivals	Year	Arrivals	Year	Arrivals	Year	Arrivals
No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1910.....	286,839	1919.....	107,698	1928.....	166,783	1937.....	15,101	1946.....	71,719
1911.....	331,288	1920.....	138,824	1929.....	164,993	1938.....	17,244	1947.....	64,127
1912.....	375,756	1921.....	91,728	1930.....	104,806	1939.....	16,994	1948.....	125,414
1913.....	400,870	1922.....	64,224	1931.....	27,530	1940.....	11,324	1949.....	95,217
1914.....	150,484	1923.....	133,729	1932.....	20,591	1941.....	9,329	1950.....	73,912
1915.....	36,665	1924.....	124,164	1933.....	14,382	1942.....	7,576	1951.....	194,391
1916.....	55,914	1925.....	84,907	1934.....	12,476	1943.....	8,504	1952.....	164,498
1917.....	72,910	1926.....	135,982	1935.....	11,277	1944.....	12,801	1953.....	168,868
1918.....	41,845	1927.....	158,886	1936.....	11,643	1945.....	22,722	1954.....	154,227

It will be seen from the figures of Table 2 that during the five year period 1950 to 1954 24.5 p.c. of the immigration flow came from the United Kingdom and Ireland, 63.6 p.c. from continental Europe, 5.9 p.c. from the United States and 6.0 p.c. from all other countries.



2.—Immigrant Admissions by Country of Last Permanent Residence 1950-54

NOTE.—Comparable figures for 1946-49 are given in the 1951 Year Book, p. 143 and figures in less detail for 1939-45 in the 1950 edition, p. 186.

Country	1950	1951	1952	1953	1954
	No.	No.	No.	No.	No.
British Isles—					
England.....	9,077	21,155	31,776	31,929	29,618
Northern Ireland.....	626	1,154	2,671	4,255	2,889
Scotland.....	2,802	8,885	10,025	9,683	9,919
Wales.....	164	365	588	707	694
Totals, British Isles.....	12,669	31,559	45,060	46,574	43,120
Other Commonwealth.....	2,211	3,494	3,473	4,238	5,031
Totals, Commonwealth.....	14,880	35,053	48,533	50,812	48,151
Republic of Ireland.....	452	640	947	2,121	2,059
Continental Europe—					
Czechoslovakia.....	1,698	3,385	514	27	16
France.....	1,399	8,279	5,395	4,045	3,672
Germany.....	3,815	29,196	25,716	34,193	28,479
Italy.....	8,993	23,426	20,651	23,704	23,780
Netherlands.....	7,169	19,266	21,068	20,341	16,182
Poland.....	9,747	14,245	3,358	136	45
Union of Soviet Socialist Republics ¹	5,467	10,155	1,969	69	24
Other European countries.....	9,626	37,430	19,253	17,750	17,144
United States ²	7,821	7,755	9,333	9,407	10,131
Other countries.....	2,845	5,561	7,761	6,263	4,544
Totals, All Countries.....	73,912	194,391	164,498	168,868	154,227

¹ In both Europe and Asia.

² Includes U.S.A. citizens on permit but applying for permanent residence.

Sex, Age and Marital Status.—In the ten year period 1945 to 1954 adult males comprised 40·4 p.c. of the immigrant arrivals, adult females 34·7 p.c. and children under 18 years of age the remaining 24·9 p.c. Without relation to age 53·5 p.c. of the newcomers were males.

3.—Sex Distribution of Immigrants as Adult Males, Adult Females and Children 1945-54

NOTE.—Figures from 1930 are given in the corresponding table of previous Year Books beginning with the 1946 edition.

Year	Adult Males	Adult Females	Under 18 Years		Total
			Males	Females	
	No.	No.	No.	No.	No.
1945.....	4,259	11,620	3,442	3,401	22,722
1946.....	9,934	40,818	10,549	10,418	71,719
1947.....	27,281	24,787	6,154	5,905	64,127
1948.....	52,986	45,191	14,104	13,133	125,414
1949.....	39,044	32,957	12,118	11,098	95,217
1950.....	30,700	24,172	10,287	8,753	73,912
1951.....	95,818	53,239	24,348	20,982	194,391
1952.....	66,083	53,443	23,766	21,206	164,498
1953.....	68,269	56,425	23,153	21,021	168,868
1954.....	64,551	51,690	19,980	18,006	154,227

In 1954, 79.6 p.c. of the males arriving and 77.2 p.c. of the females were 15 years of age or over as compared with 78.2 p.c. and 76.2 p.c., respectively in 1953. Of those arriving in 1954 who were 15 years of age or over 41.2 p.c. were married, 55.7 p.c. were single and 3.1 p.c. were widowed or divorced. The total number of single males exceeded the number of single females by 17,658 but there were more females than males in the married, widowed and divorced categories. In the single class, males were 51.8 p.c. more numerous than females, the numerical superiority being particularly heavy in the age group 20 to 29.

4.—Sex and Marital Status of Immigrant Arrivals by Age Group 1953 and 1954

Year and Age Group	Males					Females				
	Single	Married	Wid-owed	Di-vorced	Total	Single	Married	Wid-owed	Di-vorced	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1953										
0 - 14 years.....	19,901	—	—	—	19,901	18,419	1	—	—	18,420
15 - 19 ".....	7,293	60	1	—	7,354	5,030	628	—	—	5,658
20 - 24 ".....	13,907	2,342	6	11	16,266	6,757	5,731	11	45	12,544
25 - 29 ".....	8,668	7,775	20	95	16,558	4,190	8,561	43	183	12,977
30 - 39 ".....	4,102	14,011	62	317	18,492	2,632	11,507	275	422	14,836
40 - 49 ".....	838	7,787	103	222	8,950	827	5,844	486	362	7,519
50 - 59 ".....	201	2,387	81	71	2,740	254	2,111	833	160	3,358
60 years or over.....	46	863	237	15	1,161	142	626	1,313	53	2,134
Totals, 1953.....	54,956	35,225	510	731	91,422	38,251	35,009	2,961	1,225	77,446
1954										
0 - 14 years.....	17,222	—	—	—	17,222	15,876	—	—	—	15,876
15 - 19 ".....	6,407	68	—	—	6,475	4,159	673	—	—	4,832
20 - 24 ".....	14,148	2,279	4	13	16,444	6,607	5,935	9	38	12,589
25 - 29 ".....	9,199	7,777	14	90	17,080	4,053	7,789	27	123	11,992
30 - 39 ".....	3,911	12,507	51	239	16,708	2,409	10,111	193	397	13,110
40 - 49 ".....	729	6,413	76	175	7,393	644	4,956	437	288	6,325
50 - 59 ".....	105	1,941	95	39	2,180	222	1,814	768	175	2,979
60 years or over.....	44	739	228	18	1,029	137	612	1,176	68	1,993
Totals, 1954.....	51,765	31,724	468	574	84,531	34,107	31,890	2,610	1,089	69,696

Birthplace, Nationality and Origin.—Of the immigrant arrivals in 1954, 31.2 p.c. were born in British Commonwealth countries or in Ireland. This percentage compares with 29.9 p.c. in 1953 and 28.2 p.c. in 1952. In 1954, 41.7 p.c. of the newcomers were born in Germany, Italy or the Netherlands, 5.2 p.c. were born in the United States and 21.9 p.c. in other countries.

5.—Birthplaces of Immigrant Arrivals 1952-54

NOTE.—Figures from 1942 are given in the corresponding table of previous Year Books beginning with the 1948-49 edition.

Birthplace	1952	1953	1954	Birthplace	1952	1953	1954
No.	No.	No.	No.	No.	No.	No.	No.
Commonwealth—				Commonwealth—concl.			
British Isles—				Other Commonwealth—			
England.....	26,221	26,943	25,426	Africa (British).....	330	702	637
Northern Ireland.....	2,826	4,438	3,182	Australia.....	667	1,002	1,248
Scotland.....	10,611	10,101	10,091	Canada.....	795	686	704
Wales.....	1,049	978	961	India.....	468	533	526
Lesser Isles.....	137	158	198	New Zealand.....	227	311	371
				West Indies (British).....	673	845	799
				Other.....	938	965	1,218
Totals, British Isles.....	40,844	42,618	39,858	Republic of Ireland.....	1,516	2,805	2,795

5.—Birthplaces of Immigrant Arrivals 1952-54—concluded

Birthplace	1952	1953	1954	Birthplace	1952	1953	1954
No.	No.	No.	No.	No.	No.	No.	No.
Continent of Africa (other than British).....	287	304	186	Continent of Europe—concl.			
Continent of North America—				Czechoslovakia.....	1,893	1,594	1,159
Central America.....	31	34	26	Denmark.....	2,030	1,631	1,420
Mexico.....	121	131	87	Finland.....	2,276	1,207	699
United States.....	7,603	7,388	8,089	France.....	4,505	3,292	3,015
Other.....	109	82	96	Germany.....	20,423	26,788	24,212
Continent of South America.....	501	633	598	Greece.....	1,542	1,947	2,780
Continent of Asia—				Hungary.....	1,999	1,737	1,094
China.....	2,510	2,045	2,029	Italy.....	20,930	24,059	24,331
Israel.....	539	345	97	Latvia.....	1,545	705	525
Japan.....	34	69	86	Lithuania.....	898	402	318
Other.....	539	545	496	Netherlands.....	20,850	19,933	15,823
Continent of Europe—				Norway.....	1,193	922	1,014
Austria.....	3,112	4,168	4,346	Poland.....	8,839	6,040	3,520
Belgium.....	1,941	1,689	1,572	Roumania.....	2,057	2,084	1,174
				Switzerland.....	1,518	1,024	1,145
				Union of Soviet Socialist Republics ¹	2,769	1,531	1,610
				Yugoslavia.....	3,106	3,543	2,416
				Other.....	2,106	2,191	1,249
				Grand Totals.....	164,498²	168,868³	154,227⁴

¹ In both Europe and Asia.
eight born at sea and 430 not stated.

² Includes four born at sea and 230 others not stated.
⁴ Includes seven born at sea and 852 not stated.

³ Includes

Out of every hundred immigrants admitted to Canada during the three year period 1952 to 1954, 29 were British subjects, 18 were citizens of Germany, 14 of Italy, 12 of the Netherlands and five were citizens of the United States; other nationalities accounted for the remaining 22.

6.—Nationalities of Immigrant Arrivals 1952-54

NOTE.—Figures from 1930 are given in the corresponding table of previous Year Books beginning with the 1936 edition.

Nationality	1952	1953	1954	Nationality	1952	1953	1954
No.	No.	No.	No.	No.	No.	No.	No.
African (not British).....	63	53	24	Latvian.....	1,433	521	426
Albanian.....	17	16	23	Lithuanian.....	727	251	192
Argentinian.....	57	108	70	Mexican.....	58	67	53
Armenian.....	7	3	2	Netherlands.....	21,182	20,506	16,317
Austrian.....	2,867	4,224	4,597	Norwegian.....	1,202	908	998
Belgian.....	1,477	1,540	1,448	Paraguayan.....	33	14	28
Brazilian.....	28	18	18	Persian.....	15	17	6
British.....	45,685	49,036	46,725	Peruvian.....	3	4	5
Bulgarian.....	120	50	40	Polish.....	7,709	2,870	1,846
Central American.....	20	20	15	Portuguese.....	82	247	1,072
Chilean.....	11	14	13	Roumanian.....	1,127	656	395
Chinese.....	2,269	1,897	1,930	Russian.....	1,437	495	294
Czechoslovakian.....	1,180	465	229	South American, n.e.s.....	46	48	22
Danish.....	2,040	1,536	1,417	Spanish.....	152	138	124
Ecuadorian.....	4	8	1	Swedish.....	511	494	329
Estonian.....	883	362	232	Swiss.....	1,515	1,007	1,141
Finnish.....	2,272	1,220	677	Syrian.....	252	202	116
French.....	4,511	3,368	3,016	Turkish.....	56	33	34
German.....	24,410	33,337	28,360	Ukrainian.....	557	310	245
Greek.....	1,619	2,012	2,857	United States.....	8,638	8,395	9,174
Hungarian.....	1,542	809	391	Uruguayan.....	3	2	2
Icelandic.....	33	52	36	Venezuelan.....	38	35	23
Irish (Republic of Ireland)...	1,138	2,401	2,334	West Indian (not British)...	40	27	19
Israeli.....	1,385	2,014	432	Yugoslavic.....	2,880	2,549	1,764
Italian.....	20,851	24,146	24,410	Other.....	309	315	233
Japanese.....	4	48	72				
				Totals.....	164,498	168,868	154,227

Immigrants of continental European origin comprised 65·7 p.c. of the influx during 1954, those of British origin 32·4 p.c. and other origins 1·9 p.c. These percentages remained fairly constant during the three years 1952 to 1954.

7.—Origins of Immigrant Arrivals 1952-54

NOTE.—Figures from 1926 are given in the corresponding table of previous Year Books beginning with the 1939 edition.

Origin	1952	1953	1954	Origin	1952	1953	1954
No.	No.	No.	No.	No.	No.	No.	No.
British—				Continental European—			
English.....	29,341	31,018	29,617	concl.			
Irish.....	5,901	8,669	7,748	Scandinavian—			
Scottish.....	11,693	11,317	11,534	Danish.....	2,140	1,642	1,499
Welsh.....	937	958	1,075	Icelandic.....	45	55	50
Totals, British	47,872	51,962	49,974	Norwegian.....	1,371	1,097	1,181
				Swedish.....	686	612	510
				Spanish ¹	356	294	247
				Swiss ²	1,314	863	1,027
				Ukrainian.....	2,859	957	724
				Yugoslavic ³	2,205	2,041	1,610
Continental European—				Totals, Continental			
Albanian.....	20	14	26	European.....	113,461	114,075	101,351
Austrian.....	1	3,612	3,877				
Belgian.....	1,375	1,453	1,346	Other—			
Bulgarian.....	114	55	48	Arabian.....	73	18	15
Czech.....	1,009	603	377	Armenian.....	77	74	76
Estonian.....	948	459	294	Chinese.....	2,320	1,936	1,958
Finnish.....	2,308	1,252	717	East Indian.....	172	140	177
French.....	5,000	3,830	3,489	Indian (American).....	20	14	20
German.....	29,344 ⁴	36,241	31,106	Japanese.....	7	49	73
Greek.....	1,750	2,112	2,956	Mexican.....	12	7	11
Italian.....	21,554	24,547	24,857	Negro.....	163	264	254
Jewish.....	5,682	4,300	2,036	Persian.....	11	20	11
Lettish.....	1,462	595	470	Syrian.....	242	227	253
Lithuanian.....	786	299	279	Turkish.....	19	36	26
Magyar.....	1,514	919	562	Not stated.....	49	46	28
Maltese.....	694	749	939				
Netherlanders.....	21,515	20,782	16,691	Totals, Other	3,165	2,831	2,992
Polish.....	5,638	3,308	2,461				
Portuguese.....	262	568	1,337	Grand Totals	164,498	168,868	154,227
Roumanian.....	401	289	230				
Russian.....	1,109	527	405				

¹ Included with German.

² Includes Austrian.

³ Includes a small number of minor groups.

⁴ Reported as "Swiss" origin but evidently one of the constituent races such as German, French, Italian, etc.

Destination and Occupation.—Approximately 55 p.c. of the immigrants admitted to Canada in 1954 declared that they were destined to occupations in the labour force. The other 45 p.c., who were not gainfully occupied, were wives, children, other dependants and retired persons. Of the workers 11·8 p.c. were classed as professional and managerial, 12·9 p.c. were entering agricultural occupations, 14·2 p.c. were in service occupations, 30·5 p.c. were in manufacturing, mechanical and construction trades, and 15·4 p.c. were general labourers. Almost half the gainfully occupied female immigrants were in service occupations.

Ontario absorbed 53·8 p.c. of the arrivals in 1954, Quebec 18·4 p.c., British Columbia and the Prairie Provinces 25·3 p.c. and the Atlantic Provinces 2·5 p.c.

8.—Intended Destinations and Occupations of Immigrants Admitted to Canada 1954

Intended Occupation	Intended Destination																								Canada	
	Nfld.		P.E.I.		N.S.		N.B.		Que.		Ont.		Man.		Sask.		Alta.		B.C.		Yukon and N.W.T.					
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	No.	No.
Managerial (owners, managers, officials).....	14	—	1	—	15	1	9	3	342	25	750	54	36	2	21	2	130	8	204	12	4	—	1,526	107	1,633	
Professional.....	55	38	3	4	80	34	50	35	1,212	496	2,944	1,392	172	84	192	129	395	187	564	273	6	5	5,673	2,677	8,350	
Accountants and auditors.....	3	—	—	—	2	1	2	—	78	2	211	6	12	—	1	—	19	1	43	4	—	—	371	14	385	
Architects.....	—	—	—	—	—	—	—	—	24	—	68	5	4	—	—	—	14	—	24	—	—	—	136	5	141	
Chemists (other than pharmacists).....	—	—	—	—	—	—	—	—	61	1	144	12	6	1	5	—	14	—	11	3	—	—	242	17	259	
Dentists.....	1	—	—	—	—	—	—	—	1	—	10	4	—	—	1	—	3	—	4	—	—	—	22	5	27	
Draughtsmen and designers.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Aeronautical engineers.....	—	—	—	—	5	—	1	—	190	11	426	31	13	2	1	1	26	2	41	9	—	—	703	56	759	
Chemical engineers.....	—	—	—	—	3	—	—	—	57	—	68	—	—	—	—	—	1	—	8	—	—	—	138	—	138	
Civil engineers (and other prof. engineers, <i>n.e.s.</i>).....	—	—	—	—	1	—	—	—	21	—	29	—	1	—	—	—	5	—	10	—	—	—	67	—	67	
Forestry engineers.....	3	—	—	—	4	—	3	—	127	—	257	—	12	—	6	—	17	1	58	—	—	—	487	1	488	
Electrical engineers.....	—	—	—	—	2	—	—	—	2	—	2	—	—	—	1	—	—	—	23	—	—	—	13	—	13	
Mechanical engineers.....	—	—	—	—	5	—	1	—	127	1	294	1	12	—	1	—	17	—	25	—	—	—	488	—	490	
Mining engineers.....	1	—	—	—	5	—	—	—	83	—	266	—	7	—	3	—	22	—	19	—	—	—	408	—	408	
Metalurgical engineers.....	—	—	—	—	—	—	—	—	5	—	15	—	—	—	—	—	2	—	5	—	—	—	27	—	27	
Laboratory technicians and assistants, <i>n.e.s.</i>	—	—	—	—	2	—	1	—	9	—	25	—	1	—	2	—	10	—	6	—	—	—	56	—	56	
Graduate nurses.....	3	1	—	—	2	1	3	1	46	20	119	55	5	3	3	2	7	1	18	7	—	—	206	91	297	
Physicians and surgeons.....	—	23	—	—	—	12	—	15	8	214	24	817	1	50	—	57	—	112	2	120	—	1	35	1,423	1,458	
Teachers and professors.....	27	10	—	—	11	3	—	8	7	81	10	28	1	19	4	4	29	4	36	4	—	—	278	33	311	
Other professional workers.....	11	4	2	2	26	10	18	10	60	101	187	220	18	16	86	51	44	36	68	60	2	2	455	511	996	
Clerical Occupations.....	6	7	—	1	29	28	9	17	610	856	1,327	2,725	92	91	23	27	145	207	186	387	1	1	2,498	4,347	6,775	
Stenographers and typists.....	1	3	—	—	2	17	—	11	14	543	31	1,531	—	50	—	10	—	115	5	232	—	—	53	2,514	2,567	
Other clerical workers.....	5	4	—	—	27	11	9	6	596	313	1,296	1,194	92	41	23	17	145	92	181	155	1	—	2,375	1,833	4,208	
Transportation Occupations.....	6	—	—	—	29	—	9	—	291	1	851	4	92	—	26	—	100	—	144	—	—	—	1,548	5	1,553	
Air pilots, captains and mates, railway conductors, locomotive engineers, etc.....	4	—	—	—	10	—	2	—	55	—	112	—	8	—	2	—	10	—	34	—	—	—	237	—	237	
Other transportation workers.....	2	—	—	—	19	—	7	—	236	1	739	4	84	—	24	—	90	—	110	—	—	—	1,311	5	1,316	

Communication Occupations.	2	—	—	—	1	4	—	2	44	22	85	149	12	3	—	2	6	9	16	28	—	166	219	385	
Commercial Occupations.	6	2	—	—	17	4	16	6	369	99	1,044	513	61	21	19	10	118	39	158	58	1	1,809	752	2,561	
Commercial travellers and salesmen.....	4	—	—	—	7	—	12	—	246	16	679	47	37	4	10	—	82	7	103	5	—	1,180	79	1,259	
Sales clerks.....	—	2	—	—	4	3	3	5	42	70	196	433	13	17	3	10	23	29	19	47	1	1,304	616	920	
Other trading workers.....	2	—	—	—	6	1	1	1	81	13	169	33	11	—	6	—	13	3	36	6	—	325	57	382	
Financial Occupations.	1	—	—	—	2	—	—	—	48	1	86	3	3	—	2	—	8	—	20	—	—	170	4	174	
Service Occupations.	8	9	1	8	162	105	12	41	616	3,043	1,244	4,338	182	422	43	180	188	562	237	563	1	9	2,694	9,280	11,974
Barbers, hairdressers, manicurists.....	—	—	—	—	2	1	—	1	62	50	182	136	23	10	7	2	27	17	15	17	—	—	318	234	552
Nurses aides.....	2	1	—	—	—	3	1	4	13	134	51	180	12	15	2	8	7	24	7	37	—	1	95	407	502
Cooks.....	1	—	—	—	7	4	1	1	133	35	149	70	37	6	7	2	24	12	36	13	—	—	395	144	539
Domestic servants.....	—	6	—	8	1	90	—	35	57	2,740	41	3,716	4	374	—	165	4	485	7	470	—	4	114	8,063	8,207
Other non-professional service workers.....	5	1	1	—	152	7	10	—	351	84	821	236	106	17	27	3	126	24	172	26	1	4	1,772	402	2,174
Agricultural Occupations	3	—	22	—	166	1	66	2	1,943	55	5,015	105	723	43	361	7	1,469	163	737	17	2	—	10,527	393	10,920
Farmers and agriculturists.	1	—	—	—	6	—	—	3	20	—	100	3	12	—	9	—	33	—	62	1	—	—	248	4	252
Farm labourers.....	2	—	22	—	160	1	61	2	1,923	55	4,915	102	711	43	352	7	1,436	163	695	16	2	—	10,279	389	10,668
Fishing, Trapping and Logging Occupations	1	—	—	—	11	—	6	—	48	—	107	—	18	—	4	—	21	—	119	—	—	—	335	—	335
Fishermen.....	—	—	—	—	7	—	—	—	1	—	6	—	—	—	—	—	—	—	9	—	—	—	23	—	23
Trappers.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	1
Bushmen and lumbermen..	1	—	—	—	4	—	6	—	47	—	101	—	18	—	4	—	21	—	109	—	—	—	311	—	311
Mining Occupations.	—	—	—	—	6	—	2	—	59	—	181	—	36	—	11	—	96	—	36	—	1	—	428	—	428
Miners.....	—	—	—	—	6	—	2	—	47	—	168	—	33	—	10	—	60	—	29	—	—	—	355	—	355
Oil field workers.....	—	—	—	—	—	—	—	—	11	—	12	—	3	—	1	—	35	—	7	—	—	—	70	—	70
Other workers in mines, quarries.....	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	1	—	—	—	—	—	3	—	3
Manufacturing, Mechanical and Construction Occupations.	78	23	6	1	328	14	130	8	4,468	328	13,228	1,013	1,809	51	720	25	1,877	51	1,440	94	6	1	24,090	1,609	25,699
Aircraft mechanics and repairmen.....	1	—	—	—	4	—	—	—	53	—	146	2	13	—	1	—	11	—	10	—	—	—	239	2	241
Automobile mechanics and repairmen.....	3	—	—	—	38	—	14	—	361	1	964	3	152	1	106	—	162	—	115	—	—	—	1,915	5	1,920
Bakers.....	4	—	—	—	6	—	4	—	153	1	392	11	108	1	37	—	68	—	52	—	—	—	824	13	837
Blacksmiths, hammermen, forgemen.....	—	—	—	—	4	—	—	—	33	—	105	—	21	—	11	—	23	—	8	—	—	—	205	—	205
Boilermakers, platers.....	—	—	—	—	6	—	2	—	19	—	28	—	3	—	—	—	2	—	6	—	—	—	66	—	66

8.—Intended Destinations and Occupations of Immigrants Admitted to Canada 1951—concluded

Intended Occupation	Intended Destination												Canada													
	Nfld.		P.E.I.		N.S.		N.B.		Que.		Ont.				Man.		Sask.		Alta.		B.C.		Yukon and N.W.T.			
	M.	No.	M.	No.	M.	No.	M.	No.	M.	No.	M.	No.	M.	No.	M.	No.	M.	No.	M.	No.	M.	No.	M.	No.	Total	
Manufacturing, Mechanical and Construction Occupations—concl.																										
Brick and stone masons....	2	—	—	—	35	—	16	—	293	—	1,025	—	102	—	71	—	146	—	74	—	—	—	1,764	—	3	1,764
Butchers and meat cutters....	—	—	—	—	9	—	1	—	95	—	226	—	52	—	14	—	57	—	29	—	—	—	486	—	8	486
Butter and cheese makers....	—	—	—	—	1	—	—	—	—	—	4	—	—	—	—	—	3	—	—	—	—	—	1	—	1	1
Cabinet and furniture makers....	1	—	1	—	5	—	2	—	71	—	175	—	43	—	21	—	36	—	21	—	—	—	376	—	1	377
Carpenters.....	4	—	1	—	32	—	25	—	476	—	1,487	—	226	—	102	—	271	—	226	—	2	—	2,852	—	1	2,853
Compositors and typesetters.....	1	—	—	—	1	—	1	—	18	—	50	—	3	—	—	—	6	—	5	—	1	—	86	—	1	87
Construction and machinery operators.....	—	—	—	—	1	—	—	—	25	—	68	—	9	—	6	—	19	—	10	—	—	—	138	—	3	138
Coremakers.....	—	—	—	—	—	—	—	—	1	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dressmakers and seamstresses.....	4	—	—	—	—	—	3	—	5	189	2	332	1	15	—	14	—	24	—	37	—	—	8	621	8	629
Electricians and wiremen.....	11	—	—	—	53	—	10	—	346	—	805	—	138	—	45	—	147	—	113	—	—	—	1,668	6	1,674	
Electroplaters.....	—	—	—	—	1	—	—	—	9	—	31	—	—	—	—	—	2	—	—	—	—	—	43	—	1	44
Furriers.....	—	—	—	—	—	—	—	—	54	—	48	—	4	—	—	—	2	—	—	—	—	—	108	—	13	121
Glove makers.....	5	2	—	—	2	—	1	—	72	—	75	—	4	—	2	—	8	—	10	—	—	—	182	4	186	9
Jewellers and watchmakers.....	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	1	—	—	—	—	—	6	—	1	7
Leather cutters.....	2	—	—	—	—	—	—	—	95	—	359	—	38	—	11	—	43	3	28	—	10	—	579	59	638	
Machine operators.....	2	—	—	—	4	—	2	—	133	—	443	—	64	—	13	—	68	1	52	—	3	—	780	32	812	
Machinists.....	—	—	1	—	14	—	4	—	327	—	887	—	125	—	52	—	133	—	87	—	1	—	1,608	2	1,610	
Mechanics and repairmen.....	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Metal fitters and assemblers.....	4	—	—	—	12	—	4	—	196	—	867	—	89	—	36	—	103	—	73	—	—	—	1,384	5	1,389	
Milliners.....	—	—	—	—	—	—	1	—	—	—	2	—	7	—	—	—	—	—	—	—	—	—	3	—	13	16
Millwrights.....	1	—	—	—	—	—	—	—	2	—	18	—	—	—	—	—	6	—	6	—	—	—	30	—	—	30
Moulders.....	—	—	—	—	—	—	1	—	29	—	57	—	10	—	—	—	1	—	2	—	—	—	105	—	—	105
Painters, decorators, glaziers.....	2	—	1	—	7	—	2	—	173	—	597	—	85	—	29	—	94	—	78	—	—	—	1,068	6	1,074	
Patternmakers.....	—	—	—	—	—	—	2	—	9	—	51	—	2	—	1	—	1	—	6	—	—	—	72	1	73	1
Photographers and lithographers.....	—	—	—	—	—	—	—	—	10	—	12	—	1	—	—	—	—	—	2	—	—	—	25	—	1	26
Plasterers and lathers.....	—	—	—	—	—	—	—	—	30	—	111	—	12	—	—	—	19	—	10	—	—	—	190	—	—	190
Plumbers and pipe fitters.....	1	—	—	—	5	—	—	—	99	—	352	—	51	—	32	—	65	—	42	—	1	—	650	—	—	650
Printing and pressmen and plate printers.....	—	—	—	—	—	—	3	—	31	—	90	—	6	—	4	—	10	—	12	—	—	—	158	9	167	
Radio repairmen.....	—	—	—	—	7	—	1	—	69	—	174	—	14	—	6	—	9	—	25	—	—	—	305	2	307	

Sawyers (wood).....	—	—	—	—	4	7	—	1	—	—	—	—	6	—	—	—	18	—	1
Sheet metal workers and unsmiths.....	2	—	—	—	47	153	—	—	8	—	—	14	—	—	—	—	261	—	261
Shoemakers and shoe re- pairs.....	13	—	—	—	92	200	—	49	—	10	—	22	—	18	—	—	410	2	412
Spinners and weavers.....	—	—	—	—	4	3	28	35	8	2	1	—	—	3	2	—	47	46	93
Stationary engineers.....	1	—	—	—	15	107	—	1	9	6	—	13	—	11	—	—	164	1	165
Stonemasons and dressers.....	—	—	—	—	3	10	—	—	—	—	—	—	—	—	—	—	17	—	17
Tailors.....	—	—	—	—	155	29	268	83	44	4	11	2	31	4	7	—	533	131	664
Tanners.....	1	—	—	—	—	6	—	—	2	—	—	—	3	—	—	—	13	—	13
Toolmakers, diemakers and setters.....	1	—	—	—	110	—	167	1	33	5	—	24	—	24	—	—	367	1	368
Unions.....	2	—	—	—	29	108	6	20	4	—	—	15	—	8	—	—	190	7	197
Waders and flame cutters.....	1	—	—	—	142	1	414	3	58	25	—	65	—	46	—	—	767	4	771
Other workers in food pro- ducts.....	—	—	—	—	42	3	85	8	40	1	10	—	8	1	20	—	213	14	227
Other workers in rubber products.....	—	—	—	—	5	1	31	2	—	—	—	—	1	—	—	—	41	3	44
Other workers in leather and leather products.....	—	—	—	—	19	1	31	3	4	—	—	—	2	2	1	—	60	10	70
Other workers in textiles.....	4	—	—	—	48	9	77	53	8	6	1	2	3	3	—	—	141	74	215
Other workers in clothing and textile goods.....	—	—	—	—	18	34	37	125	5	7	1	2	1	4	3	8	65	192	257
Other workers in wood products.....	—	—	—	—	31	1	124	3	12	—	4	—	7	—	—	—	203	4	207
Workers in pulp, paper and paper products.....	—	—	—	—	8	—	26	1	1	—	—	—	1	—	—	—	45	2	47
Other workers in printing and publishing.....	—	—	—	—	17	1	53	22	3	1	—	—	4	1	4	—	84	25	109
Other metal workers.....	—	—	—	—	72	2	238	4	19	6	—	—	24	—	—	—	379	6	385
Other workers in non-me- talic mineral products.....	—	—	—	—	24	—	63	2	5	—	—	9	—	5	—	—	108	2	110
Other manufacturing and mechanical workers.....	1	2	1	—	12	7	239	31	845	201	52	8	19	4	69	5	1,317	278	1,595
Other construction workers.....	1	—	—	—	63	1	225	1	34	—	4	—	42	—	—	—	409	2	411
Labourers (other than agricultural, fishing, logging and mining).....	5	—	3	—	125	2	2,600	28	6,495	67	1,329	6	356	3	1,059	9	745	4	5
Occupations Not Stated.....	1	—	—	—	4	77	15	271	92	11	9	3	4	25	7	40	11	1	—
Totals, Workers.....	186	79	36	16	1,020	191	435	420	12,727	4,969	33,628	10,455	4,576	732	1,781	389	5,637	1,242	4,666
Dependants.....	74	185	11	44	298	698	142	314	2,875	7,848	11,000	27,946	1,125	2,786	588	1,367	1,920	4,495	1,763
Wives.....	—	104	—	27	—	414	—	182	—	4,642	—	16,149	—	1,599	703	—	2,507	—	2,460
Children.....	67	63	5	12	255	234	124	95	2,687	2,547	10,523	9,429	1,086	1,008	538	452	1,812	1,632	1,519
Others.....	7	18	6	5	43	50	18	37	218	659	477	2,368	39	179	50	122	108	356	244
Totals, Immigration.....	260	264	47	60	1,318	889	577	434	15,602	12,817	44,628	88,401	5,701	3,515	2,369	1,756	7,537	5,737	6,429

Deportations.—Persons unable to meet the requirements of the Immigration Act and Regulations may be refused admission to Canada upon applying at ports of entry. Certain classes not considered suited to the Canadian way of life may be deported.

9.—Refusals and Deportations by Cause and Nationality 1952-54

NOTE.—Figures from 1903 are given in the corresponding table of previous Year Books.

Cause and Nationality	Refusals			Cause and Nationality	Deportations After Admission ¹		
	1952	1953	1954		1952	1953	1954
	No.	No.	No.		No.	No.	No.
From Overseas—							
CAUSE				CAUSE			
Mental and medical.....	36	39	41	Mental and medical.....	54	85	74
Civil.....	478	398	283	Public charges.....	23	14	2
				Criminality.....	102	121	210
NATIONALITY				Misrepresentation and stealth.....	330	309	249
British.....	134	133	100	Other causes.....	70	66	118
Other.....	380	304	224				
Totals from Overseas.....	514	437	324	NATIONALITY			
From United States.....	3,600	2,013	1,821	British.....	214	237	249
				United States.....	82	92	88
				Other.....	283	266	316
Grand Totals, Refusals.....	4,114	2,450	2,145	Grand Totals, Deportations...	579	595	653

¹ Includes deserting seamen deported.

Returning Canadians.—The number of Canadians who returned to Canada during the years 1947 to 1954 after having resided in the United States were as follows: 1947, 8,970; 1948, 5,678; 1949, 4,050; 1950, 3,518; 1951, 3,635; 1952, 4,707; 1953, 4,606; and 1954, 4,516.

Section 3.—Emigration

Emigration from Canada is an important factor tending to offset to some extent both present and past immigration activities. The movement to the United States of native-born Canadians as well as of Europeans who originally migrated to Canada attained considerable proportions at certain periods. The figures of Table 10, showing the numbers of persons entering the United States from Canada during the years 1945-54 were obtained from the Immigration and Naturalization Service of the United States Department of Justice. No Canadian statistics on emigration are available.

10.—Persons Entering the United States from Canada, Years Ended June 30, 1945-54

SOURCE: Immigration and Naturalization Service, United States Department of Justice.

Year	Immigrant Aliens from Canada	U.S. Citizens Returning from Canada	Persons Departed from Canada	Total
	No.	No.	No.	No.
1945.....	11,079	5,138	188	16,405
1946.....	20,434	6,769	414	27,617
1947.....	23,467	5,003	589	29,059
1948.....	24,788	4,946	512	30,246
1949.....	25,156	5,787	425	31,368
1950.....	21,885	3,859	476	26,220
1951.....	25,880	4,303	315	30,498
1952.....	33,354	4,012	343	37,709
1953.....	36,283	2,846	351	39,480
1954.....	34,873	2,091	734	37,698

¹ Newfoundland included from 1949.

PART II.—CANADIAN CITIZENSHIP*

Naturalization procedures and events leading to the passing of the Canadian Citizenship Act are given in the 1951 Year Book, pp. 153–155.

Section 1.—The Canadian Citizenship Act

The Canadian Citizenship Act came into force on Jan. 1, 1947, its purpose being to give a clear definition of Canadian citizenship and provide an underlying community of status for all the people of Canada. Since Jan. 18, 1950 the administration of Canadian citizenship has been the responsibility of the Department of Citizenship and Immigration. The provisions of the Act and its several amendments are outlined in some detail in the 1955 Year Book, pp. 177–181. More briefly, they are given in the following paragraphs.

Natural Born Canadian Citizens, Born before Jan. 1, 1947.—The Act defines the two categories of natural born Canadian citizens as (1) a person born in Canada or on a Canadian ship or aircraft; (2) a person born outside of Canada before Jan. 1, 1947 if the responsible parent (the father or, where the father is deceased or where the child is born out of wedlock, the mother) is a Canadian citizen, if he was, on Jan. 1, 1947, either a minor or had, prior to that date, been lawfully admitted to Canada for permanent residence and had not, before that date, acquired the citizenship or nationality of another country.

The Act provides that a person in the second category will cease to be a Canadian citizen on attaining the age of 24 years or on Jan. 1, 1954, whichever is the later date, unless he has his place of domicile in Canada at such date or has, before such date and after reaching the age of 21 years, filed a declaration of retention of Canadian citizenship.

Natural Born Canadian Citizens, Born after Dec. 31, 1946.—A person born outside of Canada subsequent to that date, whose responsible parent is considered a Canadian citizen pursuant to the terms of the Canadian Citizenship Act, is a Canadian if his birth is registered with the Registrar of Canadian Citizenship within two years of its occurrence or within such extended period as the Minister may authorize in special cases.

The person who becomes a Canadian citizen in such manner automatically ceases to be a Canadian citizen on reaching the age of 24 years unless he complies with the requirements as set out for a person born outside of Canada before Jan. 1, 1947 who was still a minor on that date.

Canadian Citizens other than Natural Born.—Before the 1953 amendments to the Citizenship Act the only persons who acquired Canadian citizenship on Jan. 1, 1947 through the transitional clauses of Sect. 9 were persons who were naturalized in Canada before that date, British subjects who had Canadian domicile at the commencement of the Act and women lawfully admitted to Canada and married prior to Jan. 1, 1947 whose husbands would have qualified as Canadian citizens if the Act had come into force before the date of marriage. Sect. 9 was amended on June 1, 1953 so that a British subject who had his place of domicile in Canada for at least 20 years immediately before Jan. 1, 1947 need not comply with the requirements of Canadian domicile provided he was not under an order of deportation on Jan. 1, 1947.

Status of Married Women.—Since the commencement of the Canadian Citizenship Act a Canadian woman does not lose Canadian citizenship upon marriage to a non-Canadian and a non-Canadian woman does not become a Canadian citizen upon marriage to a Canadian citizen. However a Canadian woman who marries a non-Canadian whose country of allegiance considers her to have acquired its nationality upon marriage may file a Declaration of Renunciation of Canadian citizenship if she wishes to divest herself of her Canadian citizenship. A non-Canadian woman who marries a Canadian citizen must

* Prepared in the Canadian Citizenship Branch under the direction of Laval Fortier, Deputy Minister, Department of Citizenship and Immigration, Ottawa.

apply to the court for a certificate of citizenship. If she is a citizen of another Commonwealth country she may apply direct to the Minister. The one concession as to the qualifications applicable in both instances is a residence of only one year in Canada rather than the prescribed five years of Canadian domicile.

A Canadian woman who married a non-Canadian prior to Jan. 1, 1947 and ceased to be a British subject may regain her status and be readmitted to Canadian citizenship upon application therefor, whether or not she is a resident of Canada.

Status of Minor Children.—The minor child of a non-Canadian who becomes naturalized in Canada may receive a certificate of Canadian citizenship upon application therefor by his or her responsible parent. Provision has also been made in the Citizenship Act for the granting of a certificate of citizenship to a minor child in special circumstances—to a child whose responsible parent is not a Canadian citizen but who has been admitted to Canada for permanent residence for example. Provision has been made for the granting of a certificate to a person who was adopted or legitimized and who has been admitted to Canada for permanent residence, if the adopter or the legally recognized father is a Canadian citizen.

Loss of Canadian Citizenship.—Canadian citizenship may be lost as follows:—

- (1) A Canadian citizen who when outside of Canada and not under disability (minor, lunatic or idiot) acquires by a voluntary and formal act other than marriage the nationality or citizenship of a country other than Canada. This does not apply if that country is at war with Canada at the time of acquisition but in such a case the Minister may order that he cease to be a Canadian citizen. The purpose of this is to hold the person, if deemed necessary, to his obligations as a Canadian.
- (2) A Canadian citizen who under the law of another country is a national or citizen of such country and who serves in the armed forces of such country when it is at war with Canada. This does not apply if the Canadian citizen became a national or citizen of such country when it was at war with Canada.
- (3) A Canadian citizen who when in Canada acquires voluntarily the citizenship of a foreign country (other than by marriage) may be deprived of his Canadian citizenship by Order of the Governor in Council, on recommendation of the Minister.
- (4) A Canadian citizen, other than natural born or one who has served in the Armed Forces of Canada in time of war, or other related circumstances, who resides outside of Canada for ten consecutive years without maintaining substantial connection with Canada, loses his citizenship automatically, but the period of absence may upon application be extended beyond the ten years for good and sufficient cause.

Loss of Citizenship by Revocation—Applicable Only to Naturalized Persons.—The citizenship of a Canadian citizen other than a natural born Canadian citizen may be revoked by the Governor in Council for such reasons as trading or communicating with an enemy country during time of war; disaffection or disloyalty while out of Canada or conviction by a court of competent jurisdiction of any offence involving disaffection or disloyalty while in Canada; obtaining a certificate of naturalization or Canadian citizenship by false representation or fraud; residence outside of Canada for not less than six years (without maintenance of substantial connection) since becoming a Canadian citizen or being naturalized in Canada; residence for not less than two years (without maintenance of substantial connection) in a foreign country of which he was a national or citizen at any time prior to his becoming a Canadian citizen or being naturalized in Canada.

Loss of Citizenship by Revocation—Applicable to Both Natural Born and Naturalized Persons.—The Governor in Council may in his discretion order that any person shall cease to be a Canadian citizen if, upon a report from the Minister of Citizenship and Immigration, he is satisfied that such person has, when not under a disability, (1) taken or made an oath, affirmation, or other declaration of allegiance to a foreign country, or (2) made a declaration renouncing his Canadian citizenship.

General.—During 1954 citizenship application forms were redrafted and made bilingual. The Certificate of Citizenship is also in bilingual form, replacing the former single certificate in English or French.

An amendment to the Citizenship Regulations in June 1955 authorizes the Department to issue miniature Certificates of Canadian Citizenship. These are considered the most convenient form of citizenship identity as they bear the holder's photograph and specimen signature. They are available to all Canadian citizens.

Section 2.—Canadian Citizenship Statistics

Citizenship of the Total Population.—Results of the 1951 Census show that 96.9 p.c. of the people of Canada were Canadian citizens; that 0.7 p.c. were citizens of other Commonwealth countries; 1.7 p.c. of European countries; 0.1 p.c. of Asiatic countries; 0.5 p.c. of the United States; and 0.1 p.c. of other countries. Table 1 shows the 1951 population classified by country of allegiance and origin. According to this table 98.0 p.c. of the persons of British Isles origins and 99.7 p.c. of those of French origin owed allegiance to Canada. Corresponding percentages for other European and Asiatic origins were 89.3 p.c. and 78.7 p.c., respectively.

1.—Population by Country of Allegiance and Origin 1951

Origin	Country of Allegiance					Total
	Canada	Other Commonwealth Countries	United States	European Countries	Other Countries ¹	
	No.	No.	No.	No.	No.	No.
British Isles ²	6,577,849	95,567	34,229	1,524	516	6,709,685
French.....	4,304,972	763	8,370	4,896	166	4,319,167
Other European.....	2,279,704	6,609	22,025	229,311	16,073	2,553,722
German.....	586,597	631	8,203	21,739	2,825	619,995
Italian.....	126,767	1,640	878	22,712	248	152,245
Jewish.....	161,968	1,475	2,811	12,305	3,111	181,670
Netherlands.....	227,552	312	2,327	33,032	1,044	264,267
Polish.....	179,960	661	345	36,890	1,489	219,845
Russian.....	53,643	181	459	6,451	545	91,279
Scandinavian ³	268,904	311	4,218	9,426	165	283,024
Ukrainian.....	366,160	225	305	25,069	3,284	395,043
Other.....	278,153	1,173	1,979	61,687	3,362	346,354
Asiatic.....	57,325	417	220	104	14,761	72,827
Native Indian and Eskimo.....	165,359	45	169	17	17	165,607
Other and not stated.....	182,730	670	3,987	638	396	188,421
Totals, All Origins.....	13,567,939	101,071	69,000	236,490	31,929	14,009,429

¹ Includes persons reported as "stateless".

² Includes Danish, Icelandic, Norwegian and Swedish.

³ Includes English, Irish, Scottish, Welsh and Manx.

Citizenship Certificates Issued.—In 1954, 26,977 Canadian Citizenship Certificates were issued, 26,548 in English and 429 in French. Corresponding figures for 1953 were 22,593 certificates, 22,102 in English and 491 in French.

During 1954 the Canadian Citizenship Registration Branch recorded 2,675 certificates of registration of births abroad, 15,941 declarations of intention, 314 declarations of retention of Canadian citizenship, and 6 petitions for resumption of Canadian citizenship. Certificates issued free to persons who had had active military service numbered 360. Corresponding figures for 1953 were 2,402 registrations of births abroad, 24,757 declarations of intention, 141 declarations of retention of Canadian citizenship, 44 petitions for resumption, and 672 certificates issued free to persons who had had active military service.

2.—Citizenship Certificates Issued by Status of Recipient 1952-54

Section of 1947 Act	Classification	1952	1953	1954
		No.	No.	No.
Sect. 34 (1) (i)	Certificates of Proof of Status—			
	Canadian citizens by birth.....	2,630	2,078	1,439
	By naturalization under former Acts.....	3,420	3,826	3,396
	British subjects with 5 years domicile before Jan. 1, 1947.....	2,208	1,339	1,611
	Women, through marriage.....	1,495	1,806	888
Sect. 10 (2)	British subjects with 5 years domicile after Jan. 1, 1947.....	1,941	3,113	3,092
Sect. 10 (1)	Aliens.....	6,275	8,277	13,770
Sect. 10 (5)	Minors whose parents have been granted Certificates.....	1,614	1,231	1,896
Sect. 11 (3)	Minors under special circumstances.....	37	77	90
Sect. 10 (3)	Women who regained lost Canadian citizenship through marriage.....	678	668	533
Sect. 10 (4)	Canadians who regained lost status by naturalization outside Canada.....	177	135	134
Sect. 11 (1)	Doubtful cases who now have been awarded Certificates.....	4	16	5
Sect. 11 (2)	Adopted and legitimated persons.....	27	27	31
	Replacement Certificates.....	—	—	92
	Totals.....	20,506	22,593	26,977

Characteristics of Persons Granted Citizenship in 1954.—Detailed statistics showing the characteristics of persons granted citizenship certificates became available for the first time in 1952; such characteristics included age, marital status, occupation, period of immigration, residence and previous nationality. The 1952 data were prepared for aliens* only. The 1953 and 1954 figures include information as well on British subjects who became Canadian citizens.

Of the total of 19,545 persons granted citizenship in 1954 only 6 p.c. had immigrated to Canada before 1921, 14 p.c. from 1921 to 1940, 73 p.c. in the period 1941 to 1950 and 5 p.c. since 1950. Regionally these new citizens were distributed as follows: 2.0 p.c. in the Atlantic Provinces, 12.9 p.c. in Quebec, 54.7 p.c. in Ontario, 15.7 p.c. in the Prairie Provinces and 14.1 p.c. in British Columbia. Just over 84 p.c. of them resided in urban centres as compared with 62 p.c. of the total population of Canada at the 1951 Census.

Almost 60 p.c. of the persons naturalized during 1954 were males. Young persons under 20 years of age constituted 9 p.c. of the total, persons 20 to 44 accounted for 60 p.c. those 45 to 64 for 27 p.c. and 65 or over for 4 p.c. The largest group (18 p.c.) owed allegiance to British countries. Just over one-sixth of them formerly owed allegiance to Poland; two-thirds of these persons were males and almost 80 p.c. had arrived in Canada in the period 1946 to 1950. The next largest group were those who declared themselves 'stateless' when applying for Canadian citizenship; 60 p.c. of these had been born in Poland, 15 p.c. in the USSR, and about 6 p.c. in Czechoslovakia and Yugoslavia. About 18 p.c. of the persons acquiring Canadian citizenship in 1954 were formerly citizens of China; almost 40 p.c. of them had immigrated to Canada before 1921 and another 40 p.c. arrived since 1950 and were mainly the minor children of Canadian citizens.

Of all the males granted citizenship certificates in 1954 almost 25 p.c. were employed in manufacturing and mechanical occupations, 9 p.c. in professional occupations or labourers in other than primary industries, and 8 p.c. were classified in each of the groups, proprietary and managerial, service, agricultural and construction occupations. Of all the females granted certificates 62 p.c. were homemakers; the most important occupation groups were manufacturing and mechanical, and clerical, each of which accounted for 7 p.c.

* In addition to those classified under Sect. 10 (1) of the Citizenship Act 1947, as shown in Table 2, they include the totals shown in Sect. 10 (3) and (4), as well as a number of those in Sects. 10 (5), 11 (2) and 11 (3).

3.—Persons Granted Citizenship Certificates in 1951 by Period of Immigration to Canada and by Province of Residence

Residence	Period of Immigration					Born in Canada ¹	Total
	Before 1921	1921-1930	1931-1940	1941-1950	1951-1954		
	No.	No.	No.	No.	No.	No.	No.
Residing in Canada—							
Newfoundland.....	2	4	—	32	6	—	44
Prince Edward Island.....	—	1	1	19	1	1	23
Nova Scotia.....	14	15	12	149	30	4	224
New Brunswick.....	7	3	2	74	5	6	97
Quebec.....	162	260	93	1,861	88	70	2,534
Ontario.....	356	709	303	8,858	358	112	10,696
Manitoba.....	110	195	61	707	56	37	1,166
Saskatchewan.....	94	169	26	192	95	14	590
Alberta.....	151	302	94	656	79	37	1,319
British Columbia.....	348	348	100	1,655	266	45	2,762
Yukon and Northwest Territories.....	2	5	2	24	2	—	35
Totals, Residing in Canada.....	1,246	2,011	694	14,227	986	326	19,490
Residing Outside of Canada.....	—	—	1	20	—	34	55
Totals, Persons Naturalized.....	1,246	2,011	695	14,247	986	360	19,545

¹ Canadian born who lost their citizenship by marriage; this applies to females only.

4.—Persons Granted Citizenship Certificates in 1954 by Age Group and Sex

Age Group	Males	Females	Total	Age Group	Males	Females	Total
	No.	No.	No.		No.	No.	No.
0 - 4 Years.....	7	11	18	45 - 49 Years.....	1,112	851	1,963
5 - 9 ".....	333	213	546	50 - 54 ".....	917	663	1,580
10 - 14 ".....	235	214	449	55 - 59 ".....	602	446	1,048
15 - 19 ".....	412	254	666	60 - 64 ".....	445	276	721
20 - 24 ".....	814	479	1,293	65 - 69 ".....	328	181	509
25 - 29 ".....	1,356	1,060	2,416	70 - 74 ".....	156	53	209
30 - 34 ".....	2,047	1,270	3,317	75+ ".....	51	27	78
35 - 39 ".....	1,364	892	2,256				
40 - 44 ".....	1,534	942	2,476	Totals, All Ages.....	11,713	7,832	19,545

5.—Persons Granted Citizenship Certificates in 1954 by Sex and Occupation

Occupation	Males	Females	Total	Occupation	Males	Females	Total
	No.	No.	No.		No.	No.	No.
Proprietary and managerial.....	940	72	1,012	Construction.....	848	4	852
Professional.....	1,099	356	1,455	Labourers, not in primary industries.....	1,072	5	1,077
Clerical.....	384	549	933	Homemakers.....	—	4,859	4,859
Transportation and communication.....	374	11	385	No occupation (including students, retired, etc.).....	380	164	544
Commercial and financial.....	473	96	569	Children under 14.....	534	403	937
Service.....	908	420	1,328	Not stated ¹	711	309	1,020
Agricultural.....	889	11	900				
Fishing, trapping, logging.....	94	—	94	Totals, All Occupations.....	11,713	7,832	19,545
Mining.....	149	—	149				
Manufacturing and mechanical.....	2,858	573	3,431				

¹ Mainly children over 14 years of age.

6.—Persons Granted Citizenship Certificates in 1954 by Sex and Country of Birth

Country of Birth	Males	Females	Total	Country of Birth	Males	Females	Total
No.	No.	No.	No.	No.	No.	No.	No.
Canada.....	69	466	526	European Countries—concl.			
United States.....	265	123	388	Switzerland.....	80	39	119
European Countries—				USSR.....	451	491	942
Austria.....	243	201	444	Yugoslavia.....	514	241	755
Belgium.....	110	99	209	Other European countries...	9	8	17
British Isles.....	1,546	1,275	2,821	Asiatic Countries—			
Bulgaria.....	11	5	16	Burma.....	7	6	13
Czechoslovakia.....	450	323	773	China.....	1,209	253	1,462
Denmark.....	95	62	157	India.....	53	40	93
Estonia.....	144	189	333	Israel.....	7	7	14
Finland.....	80	72	152	Japan.....	61	64	125
France.....	73	62	135	Lebanon.....	3	8	11
Germany.....	221	290	511	Turkey.....	12	14	26
Greece.....	108	76	184	Other Asiatic countries.....	28	31	59
Hungary.....	212	255	574	Other Countries—			
Italy.....	392	187	579	Australia.....	22	18	40
Latvia.....	392	234	626	Brazil.....	4	14	18
Lithuania.....	389	227	616	British Guiana.....	7	4	11
Netherlands.....	464	319	783	British West Indies.....	54	46	100
Norway.....	119	64	183	Egypt.....	4	9	13
Poland.....	3,428	1,730	5,158	New Zealand.....	11	7	18
Republic of Ireland.....	16	15	31	South Africa.....	7	6	13
Roumania.....	239	191	430	Other.....	24	24	48
Spain.....	6	5	11				
Sweden.....	66	32	98	Totals, All Countries....	11,713	7,832	19,545

7.—Persons Granted Citizenship Certificates in 1954 by Country of Former Allegiance

Country of Former Allegiance	Certificates Granted	Country of Former Allegiance	Certificates Granted	Country of Former Allegiance	Certificates Granted
No.	No.	No.	No.	No.	No.
British countries.....	3,568	Hungary.....	430	Poland.....	3,303
Albania.....	3	Iceland.....	9	Portugal.....	1
Austria.....	254	Iraq.....	2	Republic of Ireland.....	4
Belgium.....	212	Israel.....	32	Roumania.....	288
Brazil.....	2	Italy.....	568	Spain.....	8
Bulgaria.....	11	Japan.....	132	Sweden.....	114
China.....	1,425	Latvia.....	505	Switzerland.....	137
Czechoslovakia.....	563	Lebanon.....	14	Syria.....	7
Danzig.....	2	Liechtenstein.....	4	Turkey.....	3
Denmark.....	169	Lithuania.....	569	United States.....	570
Estonia.....	324	Mexico.....	1	Uruguay.....	2
Finland.....	156	Morocco.....	1	USSR.....	416
France.....	120	Netherlands.....	783	Yugoslavia.....	570
Germany.....	439	North Africa.....	2	Stateless.....	3,434
Greece.....	186	Norway.....	200		
Haiti.....	1	Peru.....	1	Totals, All Countries..	19,545

CHAPTER V.—VITAL STATISTICS*

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Vital Statistics provide a record of community and national development: a measurement of the pace of population growth, the number and distribution of people coming into the various age groups, the relative importance of each of the various causes of death, and population trends generally. This Chapter moreover attempts to provide a comparison of principal Canadian vital statistics rates with those of other countries and to present tables on marriages and deaths as well as detailed life tables for males and females. Births and deaths are classified by place of residence (births according to the residence of the mother) and marriages by place of occurrence.

The continuity of vital statistics provides a constant guide to the planning, operation and evaluation of a variety of national activities, notably in public health, education, community planning, and various types of business enterprise. The data are presented so as to be useful for the general reader as well as students of demography, public health, sociology and other specialized fields. The population data upon which the rates shown in this Chapter are computed are contained in Chapter III (Population) and in the several DBS reports relating to census and intercensal estimates of population. In making both international and interprovincial comparisons of birth, death and marriage rates, it is important to note that part of the differences observed over a period of years as between different countries, provinces or local areas may be caused by differences in the sex and age distribution of the populations involved. Similarly changes in the rates may be caused partly by changes in this distribution.

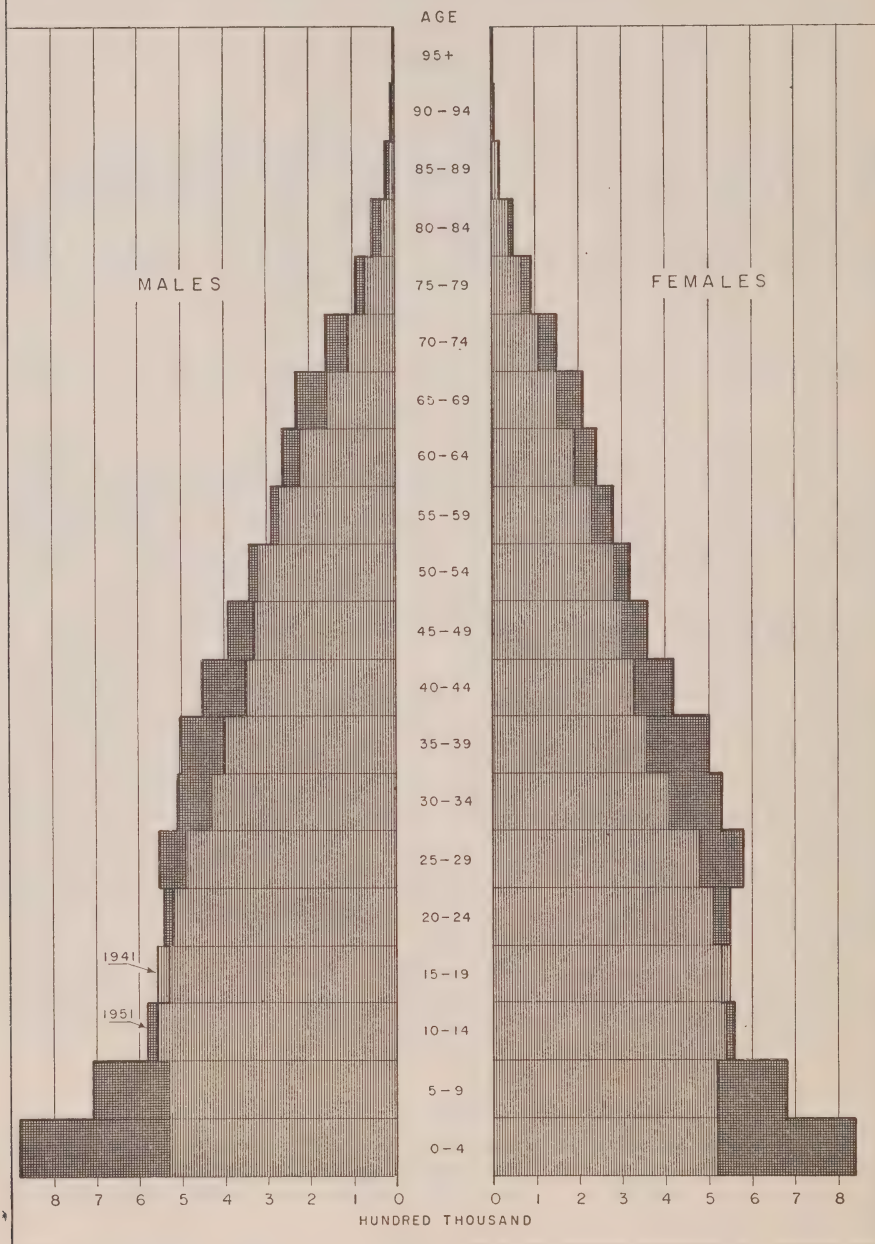
The history of the collection of vital statistics in Canada is covered in the 1948-49 edition of the Year Book, pp. 185-188. In addition to the information provided in *Vital Statistics* (Preliminary Report), *Vital Statistics of Canada* and other regular DBS annual reports, certain unpublished data are also available on request.

Section 1.—Summary of Vital Statistics

Table 1 gives a summary of the principal vital statistics of the provinces of Canada from 1921 when the system of collection of national statistics was initiated and Table 2 shows certain vital statistics for urban centres having at least 10,000 population at the date of the 1951 Census.

* Revised in the Vital Statistics Section, Health and Welfare Division, Dominion Bureau of Statistics.

POPULATION OF CANADA BY SEX AND FIVE-YEAR AGE GROUPS



This Chart shows the age-sex distribution of the population at the 1941 and 1951 Censuses, as an illustration of how that distribution may change within a short period of time. Such changes can have a very significant effect on vital statistics rates.

1.—Summary of Principal Vital Statistics by Province 1921-54

(Exclusive of the Territories)

Province and Year	Live Births		Deaths		Natural Increase		Infant Mortality ¹		Maternal Mortality		Marriages	
	No.	Rate ²	No.	Rate ²	No.	Rate ²	No.	Rate ³	No.	Rate ³	No.	Rate ²
Newfoundland—												
Av. 1921-25.....	6,986	26.7	3,665	14.0	3,321	12.7	..	..	50	7.1	1,481	5.7
" 1926-30.....	6,756	25.1	3,684	13.7	3,072	11.4	779	115	33	4.9	1,632	6.1
" 1931-35.....	6,686	23.4	3,642	12.8	3,044	10.6	782	117	34	5.0	1,708	6.0
" 1936-40.....	7,638	25.8	3,681	12.4	3,957	13.4	754	99	40	5.3	2,208	7.5
" 1941-45.....	9,292	29.8	3,681	11.8	5,611	18.0	852	92	39	4.2	2,967	9.5
" 1946-50.....	12,352	36.2	3,179	9.3	9,173	26.9	754	61	25	2.0	2,711	8.0
1946.....	12,033	36.5	3,427	10.4	8,606	26.1	887	74	27	2.2	3,067	9.3
1947.....	12,646	37.5	3,325	9.9	9,321	27.6	790	62	29	2.3	2,917	8.7
1948.....	11,634	33.8	3,108	9.0	8,526	24.8	685	59	22	1.9	2,610	7.6
1949.....	12,281	35.6	2,868	8.3	9,413	27.3	651	53	24	2.0	2,445	7.1
1950.....	13,164	37.5	3,168	9.0	9,996	28.5	758	58	21	1.6	2,515	7.2
1951.....	11,738	32.5	3,004	8.3	8,734	24.2	637	54	25	2.1	2,517	7.0
1952.....	12,561	33.4	2,773	7.4	9,788	26.2	572	46	25	2.0	2,730	7.3
1953.....	12,797	33.4	2,733	7.1	10,064	26.3	596	47	19	1.5	2,771	7.2
1954.....	13,653	34.3	2,916	7.3	10,737	27.0	561	41	22	1.6	2,952	7.4
P. E. Island—												
Av. 1921-25.....	1,965	22.6	1,085	12.5	880	10.1	152	77	9	4.6	473	5.4
" 1926-30.....	1,735	19.7	969	11.0	766	8.7	122	70	8	4.6	473	5.4
" 1931-35.....	1,961	21.8	1,001	11.1	960	10.7	131	67	10	5.1	496	5.5
" 1936-40.....	2,054	21.9	1,080	11.5	974	10.4	142	69	10	4.9	623	6.6
" 1941-45.....	2,180	23.7	964	10.5	1,216	13.2	114	52	9	3.9	686	7.5
" 1946-50.....	2,869	30.5	922	9.8	1,947	20.7	114	40	4	1.3	677	7.2
1946.....	2,793	29.7	874	9.3	1,919	20.4	97	35	6	2.1	837	8.9
1947.....	2,992	31.8	1,020	10.9	1,972	20.9	135	45	6	2.0	676	7.2
1948.....	2,842	30.6	887	9.5	1,955	21.1	97	34	3	1.1	635	6.8
1949.....	2,831	30.1	924	9.8	1,907	20.3	135	48	3	1.0	619	6.6
1950.....	2,885	30.1	903	9.4	1,982	20.7	105	36	3	1.0	616	6.4
1951.....	2,651	27.1	904	9.2	1,747	17.9	90	34	1	0.4	583	5.9
1952.....	2,703	26.2	916	8.9	1,787	17.3	83	31	4	1.5	613	6.0
1953.....	2,737	25.8	926	8.7	1,811	17.1	77	28	2	0.7	647	6.1
1954.....	2,724	25.9	966	9.2	1,758	16.7	95	35	2	0.7	605	5.8
Nova Scotia—												
Av. 1921-25.....	12,119	23.4	6,519	12.6	5,600	10.8	1,139	94	70	5.8	3,186	6.1
" 1926-30.....	11,016	21.4	6,362	12.4	4,653	9.0	934	85	61	5.5	3,224	6.3
" 1931-35.....	11,486	21.9	6,073	11.6	5,414	10.3	840	73	59	5.1	3,522	6.7
" 1936-40.....	12,060	21.7	6,126	11.0	5,934	10.7	782	65	48	4.0	4,796	8.6
" 1941-45.....	15,146	25.2	6,342	10.5	8,804	14.7	870	57	41	2.7	6,302	10.5
" 1946-50.....	17,994	28.9	6,426	9.7	11,568	19.2	760	42	22	1.2	5,525	8.9
1946.....	17,914	29.5	6,046	9.9	11,868	19.6	822	46	28	1.6	6,549	10.8
1947.....	19,265	31.3	6,009	9.8	13,256	21.5	840	44	20	1.0	5,861	9.5
1948.....	17,791	28.5	6,097	9.8	11,694	18.7	695	39	19	1.1	5,093	8.1
1949.....	17,739	28.2	5,980	9.5	11,759	18.7	750	42	20	1.1	5,058	8.0
1950.....	17,262	27.1	6,078	9.5	11,184	17.6	693	40	21	1.2	5,065	7.9
1951.....	17,125	26.6	5,812	9.0	11,313	17.6	594	35	12	0.7	5,094	7.9
1952.....	17,951	27.5	5,756	8.8	12,195	18.7	615	34	14	0.8	5,890	8.3
1953.....	18,276	27.6	5,808	8.8	12,468	18.8	585	32	14	0.8	5,378	8.1
1954.....	18,909	28.1	5,692	8.5	13,217	19.6	568	30	10	0.5	5,265	7.8
New Brunswick—												
Av. 1921-25.....	11,080	28.4	5,093	13.1	5,987	15.4	1,164	105	51	4.6	2,953	7.6
" 1926-30.....	10,327	25.8	5,019	12.5	5,308	13.2	1,040	101	64	6.2	2,970	7.4
" 1931-35.....	10,440	24.9	4,710	11.3	5,730	13.6	857	82	57	5.5	2,737	6.5
" 1936-40.....	11,105	25.1	5,040	11.4	6,065	13.7	813	82	54	4.9	3,801	8.6
" 1941-45.....	13,037	28.2	5,050	10.9	7,987	17.3	960	74	42	3.2	4,433	9.6
" 1946-50.....	16,878	34.0	4,886	9.8	11,992	24.2	1,015	60	23	1.4	4,864	9.8

¹ Under one year of age.² Per 1,000 population.³ Per 1,000 live births.

1.—Summary of Principal Vital Statistics by Province 1921-51—continued

Province and Year	Live Births		Deaths		Natural Increase		Infant Mortality ¹		Maternal Mortality		Marriages	
	No.	Rate ²	No.	Rate ²	No.	Rate ²	No.	Rate ³	No.	Rate ³	No.	Rate ²
New Brunswick—												
concluded												
1946	16,274	34.0	4,866	10.2	11,408	23.8	1,066	66	34	2.1	5,866	12.3
1947	17,771	36.4	4,832	9.9	12,939	26.5	1,041	59	25	1.4	5,180	10.6
1948	17,279	34.7	4,959	10.0	12,320	24.7	1,047	61	23	1.3	4,640	9.3
1949	16,673	32.8	4,876	9.6	11,797	23.2	993	60	18	1.1	4,951	8.4
1950	16,393	32.0	4,895	9.6	11,498	22.4	927	57	15	0.9	4,378	8.5
1951	16,075	31.2	4,873	9.4	11,202	21.8	835	52	11	0.7	4,396	8.5
1952	16,691	31.7	4,647	8.8	12,044	22.9	729	44	19	1.1	4,276	8.1
1953	16,458	30.7	4,637	8.7	11,821	22.0	734	45	16	1.0	4,392	7.9
1954	16,649	30.4	4,286	7.8	12,363	22.6	664	40	12	0.7	4,278	7.8
Quebec—												
Av. 1921-25	87,032	35.5	33,339	13.6	53,693	21.9	10,834	124	338	3.9	17,520	7.1
" 1926-30	82,771	30.5	36,645	13.5	46,126	17.0	10,518	127	493	5.2	18,731	6.9
" 1931-35	78,888	26.6	32,796	11.0	46,092	15.6	7,757	98	405	5.1	17,089	5.8
" 1936-40	78,509	24.6	33,221	10.4	45,288	14.2	6,470	82	400	5.1	27,111	8.5
" 1941-45	97,906	28.4	34,273	9.9	63,633	18.5	6,690	68	318	3.2	33,126	9.6
" 1946-50	115,496	30.4	33,723	8.9	81,773	21.5	6,205	54	227	2.0	34,874	9.2
1946	111,285	30.7	33,690	9.3	77,595	21.4	6,110	55	229	2.1	36,650	10.1
1947	115,553	31.1	33,708	9.1	81,845	22.0	6,583	57	259	2.2	35,494	9.6
1948	114,709	30.3	33,603	8.9	81,106	21.4	6,211	54	232	2.0	34,646	9.1
1949	116,824	30.1	34,107	8.8	82,717	21.3	6,031	52	234	2.0	33,485	8.6
1950	119,111	30.0	33,507	8.4	85,604	21.6	6,091	51	182	1.5	34,093	8.6
1951	120,930	29.8	34,900	8.6	86,030	21.2	5,821	48	186	1.5	35,704	8.8
1952	126,416	30.3	34,854	8.4	91,562	21.9	6,332	50	155	1.2	35,374	8.5
1953	128,719	30.2	34,469	8.1	94,250	22.1	5,749	45	136	1.1	35,968	8.4
1954	133,178	30.4	33,169	7.6	100,009	22.8	5,361	40	140	1.1	35,516	8.1
Ontario—												
Av. 1921-25	71,454	23.7	34,252	11.3	37,202	12.3	5,916	83	386	5.4	24,037	8.0
" 1926-30	68,704	21.0	36,650	11.2	32,054	9.8	5,091	74	398	5.8	25,449	7.8
" 1931-35	65,000	18.5	35,782	10.2	29,218	8.3	3,962	61	344	5.3	24,260	6.9
" 1936-40	64,461	17.5	37,794	10.3	26,668	7.2	3,196	50	291	4.5	32,719	8.4
" 1941-45	77,738	19.9	39,738	10.2	38,000	9.7	3,276	42	197	2.5	38,042	9.7
" 1946-50	105,161	24.6	42,214	9.9	62,947	14.7	3,795	36	129	1.2	44,084	10.3
1946	97,446	23.8	39,758	9.7	57,688	14.1	3,653	37	160	1.6	46,073	11.3
1947	108,583	26.1	41,619	10.0	67,234	16.1	3,914	36	129	1.2	44,056	10.3
1948	104,195	24.4	42,364	9.9	61,831	14.5	3,684	35	125	1.2	43,242	10.1
1949	106,601	24.3	43,379	9.9	63,222	14.4	3,974	37	134	1.3	43,304	9.9
1950	108,708	24.3	43,948	9.8	64,760	14.5	3,751	35	97	0.9	43,744	9.8
1951	114,827	25.0	43,981	9.6	70,846	15.4	3,545	31	97	0.8	45,198	9.8
1952	123,891	26.0	44,402	9.3	79,489	16.7	3,789	31	109	0.8	45,251	9.5
1953	129,771	26.5	45,242	9.2	84,529	17.3	3,696	28	60	0.5	45,954	9.1
1954	136,261	27.0	44,515	8.8	91,746	18.2	3,517	26	60	0.5	45,028	8.9
Manitoba—												
Av. 1921-25	16,590	26.8	5,348	8.6	11,242	18.1	1,394	84	87	5.2	4,634	7.5
" 1926-30	14,392	21.7	5,507	8.3	8,885	13.4	1,031	72	81	5.6	4,951	7.5
" 1931-35	13,690	19.4	5,413	7.7	8,277	11.7	835	61	60	4.4	5,015	7.1
" 1936-40	13,515	18.8	6,136	8.5	7,379	10.3	773	57	54	4.0	6,931	9.6
" 1941-45	15,831	21.8	6,633	9.1	9,198	12.7	814	51	41	2.6	7,295	10.0
" 1946-50	19,325	25.9	6,702	9.0	12,623	16.9	810	42	24	1.3	7,605	10.2
1946	18,794	25.9	6,537	9.0	12,257	16.9	885	47	32	1.7	8,594	11.8
1947	20,409	27.6	6,771	9.2	13,638	18.4	931	46	23	1.1	7,712	10.4
1948	18,870	25.3	6,675	8.9	12,195	16.4	765	41	28	1.5	7,325	9.8
1949	19,292	25.5	6,919	9.1	12,373	16.4	794	41	25	1.3	7,265	9.6
1950	19,261	25.1	6,610	8.6	12,651	16.5	673	35	14	0.7	7,128	9.3
1951	19,942	25.7	6,735	8.7	13,207	17.0	658	33	22	1.1	7,366	9.3
1952	20,777	26.0	6,552	8.2	14,225	17.8	647	31	11	0.5	7,128	8.9
1953	21,242	26.3	7,015	8.7	14,227	17.6	741	35	16	0.8	7,277	9.0
1954	22,248	26.9	6,719	8.1	15,529	18.8	635	29	11	0.5	6,837	8.3
Saskatchewan—												
Av. 1921-25	21,580	27.7	5,859	7.5	15,721	20.2	1,790	83	127	5.9	4,982	6.4
" 1926-30	21,298	24.7	6,256	7.3	15,042	17.5	1,560	73	126	5.9	6,036	7.0
" 1931-35	20,325	21.9	6,037	6.5	14,288	15.4	1,260	62	91	4.5	5,680	6.1

¹ Under one year of age.² Per 1,000 population.³ Per 1,000 live births.

1. Summary of Principal Vital Statistics by Province 1921-54—concluded

Province and Year	Live Births		Deaths		Natural Increase		Infant Mortality ¹		Maternal Mortality		Marriages	
	No.	Rate ²	No.	Rate ²	No.	Rate ²	No.	Rate ²	No.	Rate ²	No.	Rate ²
Saskatchewan—concluded												
Av. 1936-40.....	18,675	20.4	6,366	7.0	12,310	13.4	1,025	55	68	3.6	6,599	7.2
" 1941-45.....	18,444	21.7	6,437	7.6	12,007	14.1	858	47	52	2.8	6,541	7.7
" 1946-50.....	21,907	26.3	6,473	7.8	15,434	18.5	883	40	29	1.3	7,413	8.9
1946.....	21,433	25.7	6,422	7.7	15,011	18.0	1,004	47	36	1.7	8,279	9.9
1947.....	23,334	27.9	6,610	7.9	16,724	20.0	1,018	44	38	1.6	7,674	9.2
1948.....	21,562	25.7	6,496	7.8	15,066	17.9	867	40	22	1.0	7,171	8.6
1949.....	21,662	26.0	6,596	7.9	15,066	18.1	834	39	27	1.2	7,037	8.5
1950.....	21,546	25.9	6,243	7.5	15,303	18.4	690	32	21	1.0	6,904	8.3
1951.....	21,733	26.1	6,440	7.7	15,293	18.4	676	31	22	1.0	6,805	8.2
1952.....	22,605	26.8	6,625	7.9	15,980	18.9	787	35	13	0.6	6,944	8.2
1953.....	23,703	27.5	6,687	7.8	17,016	19.7	797	34	13	0.5	7,186	8.3
1954.....	24,981	28.5	6,323	7.2	18,658	21.3	708	28	22	0.9	6,953	7.9
Alberta—												
Av. 1921-25.....	15,461	26.0	4,953	8.3	10,508	17.7	1,327	86	97	6.3	4,313	7.3
" 1926-30.....	15,924	24.2	5,530	8.4	10,393	15.8	1,195	75	105	6.6	5,265	8.0
" 1931-35.....	16,557	22.1	5,447	7.3	11,110	14.8	997	60	75	4.5	5,530	7.4
" 1936-40.....	16,282	20.8	6,054	7.7	10,228	13.1	869	53	73	4.5	7,192	9.2
" 1941-45.....	18,445	23.7	6,355	8.0	12,490	15.7	827	44	46	2.4	7,977	10.0
" 1946-50.....	24,200	28.4	6,814	8.0	17,476	20.4	889	37	25	1.0	9,090	10.6
1946.....	22,184	27.6	6,601	8.2	15,583	19.4	945	43	32	1.4	9,478	11.8
1947.....	24,631	29.9	6,543	7.9	18,088	22.0	915	37	22	0.9	8,797	10.7
1948.....	24,075	28.2	6,987	8.2	17,088	20.0	930	39	29	1.2	8,844	10.4
1949.....	24,935	28.2	7,083	8.0	17,852	20.2	823	33	25	1.0	9,037	10.2
1950.....	25,625	28.1	6,856	7.5	18,769	20.6	831	32	19	0.7	9,294	10.2
1951.....	27,003	28.8	7,167	7.6	19,836	21.2	889	33	15	0.6	9,305	9.9
1952.....	29,105	30.0	7,345	7.6	21,760	22.4	879	30	15	0.5	9,514	9.8
1953.....	31,376	31.3	7,646	7.6	23,730	23.7	930	30	21	0.7	10,126	10.1
1954.....	33,593	32.3	7,520	7.2	26,073	25.1	882	26	11	0.3	9,960	9.6
British Columbia—												
Av. 1921-25.....	10,256	18.4	4,812	8.7	5,444	9.8	621	61	61	5.9	3,971	7.1
" 1926-30.....	10,355	16.2	5,986	9.3	4,369	6.8	571	55	63	6.1	4,786	7.5
" 1931-35.....	10,005	14.0	6,344	8.9	3,661	5.1	463	46	53	5.3	4,267	6.0
" 1936-40.....	12,106	15.6	7,697	9.9	4,408	5.7	532	44	46	3.8	7,053	9.1
" 1941-45.....	17,705	19.8	9,368	10.5	8,337	9.3	684	39	46	2.6	9,535	10.7
" 1946-50.....	25,859	24.0	10,992	10.2	14,867	13.9	868	34	31	1.2	11,564	10.7
1946.....	22,609	22.5	10,137	10.1	12,472	12.4	852	38	38	1.7	11,762	11.7
1947.....	26,286	25.2	10,613	10.2	15,673	15.0	959	36	32	1.2	11,852	11.4
1948.....	25,984	24.0	11,316	10.5	14,668	13.5	868	33	29	1.1	11,718	10.8
1949.....	27,301	24.5	11,315	10.2	15,986	14.3	858	31	28	1.0	11,376	10.2
1950.....	27,116	23.8	11,581	10.2	15,535	13.6	805	30	27	1.0	11,110	9.8
1951.....	28,077	24.1	11,638	10.0	16,439	14.1	839	30	20	0.7	11,272	9.7
1952.....	29,827	24.9	12,080	10.1	17,747	14.8	870	29	18	0.6	11,081	9.2
1953.....	31,746	25.8	12,218	9.9	19,528	15.9	859	27	18	0.6	11,298	9.2
1954.....	32,946	26.0	12,414	9.8	20,532	16.2	850	26	13	0.4	10,991	8.7
Canada—4												
Av. 1921-25.....	247,538	27.4	101,260	11.2	146,277	16.2	24,337	98	1,226	5.0	66,078	7.3
" 1926-30.....	236,521	24.1	108,925	11.1	127,596	13.0	22,063	93	1,339	5.7	71,886	7.3
" 1931-35.....	228,352	21.5	103,602	9.8	124,750	11.7	17,101	75	1,153	5.0	68,594	6.5
" 1936-40.....	228,767	20.5	109,514	9.8	119,253	10.7	14,701	64	1,043	4.6	96,824	8.7
" 1941-45.....	276,832	23.5	115,144	9.8	161,688	13.7	15,093	55	791	2.9	113,936	9.7
" 1946-50.....	354,869	27.4	119,975	9.3	234,894	18.1	15,620	44	523	1.5	126,687	9.8
1946.....	336,732	27.0	114,931	9.4	221,801	17.6	15,434	47	595	1.8	134,088	10.9
1947.....	359,094	28.2	117,725	9.4	241,369	19.3	16,336	45	554	1.5	127,311	10.2
1948.....	347,307	27.1	119,354	9.3	227,953	17.8	15,164	44	510	1.5	123,314	9.6
1949.....	366,139	27.3	124,047	9.2	242,092	18.1	15,843	43	536	1.5	123,877	9.2
1950.....	371,971	27.1	123,789	9.0	248,182	18.1	15,324	41	420	1.1	124,545	9.1
1951.....	389,101	27.2	125,454	9.0	263,647	18.2	14,584	38	405	1.1	128,230	9.2
1952.....	402,527	27.9	125,950	8.7	276,577	19.2	15,303	38	374	0.9	128,301	8.9
1953.....	416,825	28.2	127,351	8.6	289,474	19.6	14,764	35	324	0.8	130,837	8.9
1954.....	435,142	28.7	124,520	8.2	310,622	20.5	13,841	32	312	0.7	128,385	8.5

¹ Under one year of age. ² Per 1,000 population.
 Newfoundland are included for 1949-54 only.

³ Per 1,000 live births.

⁴ Figures for

2.—Summary of Principal Vital Statistics for Urban Centres of 10,000 Population or Over¹ 1946-54

Province and Urban Centre	Births			Deaths			Natural Increase			Infant Deaths			
	Av. 1946-1950	1953	1954	Av. 1946-1950	1953	1954	Av. 1946-1950	1953	1954	Av. 1946-1950		1954	
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	Rate ²	No.	Rate ²
Newfoundland—													
St. John's.....	1,572	1,956	1,987	^a	488	509	^a	1,468	1,478	89	56	77	39
Prince Edward Island—													
Charlottetown.....	497	502	481	205	213	214	292	289	267	17	34	18	37
Nova Scotia—													
Dartmouth.....	500	558	644	109	113	121	391	445	523	16	33	14	22
Glace Bay.....	782	684	704	226	222	220	556	462	484	40	51	28	40
Halifax.....	2,366	2,519	2,577	749	753	686	1,617	1,766	1,891	80	34	51	20
New Waterford.....	354	371	390	94	63	102	260	308	288	22	62	20	51
Sydney.....	1,011	1,107	1,126	307	244	213	704	863	913	46	46	15	13
Truro.....	333	292	295	104	98	76	229	194	219	15	46	3	10
New Brunswick—													
Edmundston.....	385	417	371	70	70	67	315	347	304	21	54	19	51
Fredericton.....	442	477	440	140	178	132	302	299	308	14	32	10	23
Moncton.....	769	785	827	219	216	192	550	569	635	31	40	24	29
Saint John.....	1,595	1,527	1,522	638	591	537	957	936	985	77	49	46	30
Quebec—													
Arvida.....	388	370	404	46	58	41	342	312	363	19	50	11	27
Cap de la Madeleine.....	518	670	691	115	107	126	403	563	565	29	56	22	32
Chicoutimi.....	972	1,098	1,086	195	205	186	777	893	900	59	61	50	46
Drummondville.....	471	476	482	103	135	107	368	341	375	22	47	16	33
Granby.....	683	820	935	154	197	183	529	623	752	27	39	26	28
Grand'Mère.....	329	379	427	82	93	73	247	286	354	15	46	9	21
Hull.....	1,390	1,546	1,666	359	444	412	1,031	1,102	1,254	78	56	99	59
Jacques-Cartier.....		1,010	1,144		177	173		833	971			52	45
Joliette.....	436	446	466	162	144	159	274	302	307	26	59	17	36
Jonquière.....	833	936	986	145	156	140	688	780	846	56	67	37	38
Lachine.....	657	810	809	213	221	254	444	589	555	21	32	34	42
Lasalle.....	257	499	544	59	78	85	198	421	459	8	30	14	26
Lévis.....	357	331	349	127	123	118	230	208	231	14	40	26	74
Longueuil.....	312	387	441	89	106	103	223	281	338	16	50	18	41
Magog.....	407	409	386	104	108	104	303	301	282	21	51	16	41
Montreal.....	24,535	28,372	28,420	9,877	10,092	9,593	14,658	18,280	18,827	1,062	43	819	29
Montreal North.....	305	450	635	70	93	104	235	357	531	12	40	23	36
Mount Royal.....	154	223	269	42	61	76	112	162	193	4	23	2	7
Outremont.....	335	235	362	279	273	264	56	—38	98	7	20	8	22
Quebec.....	4,275	4,194	4,485	1,709	1,534	1,578	2,566	2,660	2,907	321	75	225	50
Rimouski.....	381	473	464	93	85	76	288	388	388	21	55	14	30
Rouyn.....	455	603	620	80	124	100	375	479	520	20	43	16	26
St. Hyacinthe.....	530	513	536	253	279	237	277	234	299	25	48	16	30
St. Jean.....	500	735	708	143	157	147	357	578	561	19	37	24	34
St. Jérôme.....	560	562	618	134	126	150	426	436	468	31	55	40	65
St. Laurent.....	380	934	1,015	105	147	172	275	787	843	15	40	23	23
St. Michel.....	214	524	716	36	70	79	178	454	637	10	45	15	21
Shawinigan Falls.....	883	831	946	181	148	176	702	683	770	42	47	35	37
Sherbrooke.....	1,459	1,753	1,754	434	500	460	1,025	1,253	1,294	87	60	58	33
Sillery.....		249	261		85	53		164	208			6	23
Sorel.....	470	534	580	153	155	136	317	379	444	27	57	24	41
Theftford Mines.....	449	529	625	142	122	106	307	407	519	21	48	26	42
Three Rivers.....	1,300	1,459	1,413	411	377	384	889	1,082	1,029	84	65	64	45
Valleyfield.....	677	749	719	170	198	198	507	551	521	30	45	42	58
Verdun.....	1,771	1,826	1,719	566	603	1,205	1,260	1,116	61	44	29	17	
Victoriaville.....	409	462	518	108	157	139	301	305	379	29	70	33	64
Westmount.....	292	226	262	294	258	299	—2	—32	—37	9	32	7	27
Ontario—													
Barrie.....	324	433	452	125	135	145	199	298	307	9	28	12	27
Belleville.....	483	547	539	202	196	174	281	351	365	18	37	12	22
Brantford.....	972	926	929	405	375	369	567	551	560	39	40	19	20

For footnotes, see end of table.

2.—Summary of Principal Vital Statistics for Urban Centres of 10,000 Population or Over¹ 1946-51—concluded

Province and Urban Centre	Births			Deaths			Natural Increase			Infant Deaths			
	Av. 1946-1950	1953	1954	Av. 1946-1950	1953	1954	Av. 1946-1950	1953	1954	Av. 1946-1950	1954		
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	Rate ²	No.	Rate ²
Ontario—concluded													
Brockville.....	336	329	308	155	136	132	181	193	176	14	41	12	39
Chatham.....	518	572	548	218	221	228	300	351	320	19	37	19	35
Cornwall.....	572	518	481	183	159	178	389	359	303	26	46	12	25
Eastview.....	409	637	654	82	83	92	327	554	562	18	43	22	34
Forest Hill.....	193	216	248	93	101	110	100	115	138	5	26	2	8
Fort William.....	918	1,025	1,030	299	310	316	619	715	714	30	33	22	21
Galt.....	436	493	526	191	206	208	245	287	318	14	33	15	29
Guelph.....	650	801	825	277	347	347	373	454	478	26	40	18	22
Hamilton.....	4,548	5,831	5,943	1,837	2,035	1,994	2,711	3,796	3,949	135	30	156	26
Kingston.....	953	1,249	1,252	396	446	432	557	803	820	28	30	33	26
Kitchener.....	1,032	1,451	1,641	366	411	418	666	1,040	1,223	30	29	28	17
Leaside.....	310	287	243	69	86	106	241	201	137	8	24	2	8
London.....	2,279	2,375	2,517	1,006	1,139	1,032	1,273	1,236	1,485	76	33	68	27
Mimico.....	252	283	322	81	109	119	171	174	203	8	31	3	9
New Toronto.....	207	224	230	64	98	68	143	126	162	7	35	3	13
Niagara Falls.....	620	639	612	237	225	252	383	414	360	17	28	13	21
North Bay.....	480	535	611	171	203	170	309	332	441	18	38	11	18
Orillia.....	336	397	388	130	145	137	206	252	251	16	46	15	39
Oshawa.....	727	1,346	1,376	258	339	314	469	1,007	1,062	26	35	40	29
Ottawa.....	4,332	5,292	5,477	1,764	2,027	2,040	2,568	3,265	3,437	168	39	168	31
Owen Sound.....	418	421	400	174	173	187	244	248	213	17	42	12	30
Pembroke.....	361	422	445	132	122	149	229	300	296	19	53	15	34
Peterborough.....	1,031	1,088	1,105	359	320	348	672	768	757	32	31	28	25
Port Arthur.....	786	955	1,004	304	340	347	482	615	657	30	38	22	22
Port Colborne.....	306	406	381	95	105	105	211	301	276	10	32	13	34
St. Catharines.....	874	957	889	345	386	356	529	571	533	29	33	19	21
St. Thomas.....	423	403	402	239	226	254	184	177	148	19	44	8	20
Sarnia.....	620	1,216	1,303	229	330	267	391	886	1,036	18	30	34	26
Sault Ste. Marie.....	849	1,120	1,033	289	318	303	560	802	730	38	45	27	26
Stratford.....	420	440	417	241	198	235	179	242	182	16	49	12	29
Sudbury.....	1,344	1,665	1,680	294	299	307	1,050	1,366	1,373	61	35	50	30
Timmins.....	867	787	831	202	202	189	665	585	642	38	43	30	36
Toronto.....	14,344	14,739	15,253	7,820	7,774	7,600	6,524	6,965	7,653	435	30	364	24
Trenton.....	343	348	390	99	82	94	244	266	296	12	35	11	28
Waterloo.....	262	374	386	88	104	82	174	270	304	8	31	1	3
Welland.....	391	436	428	134	124	105	257	312	323	15	39	8	19
Windsor.....	2,945	3,134	3,123	1,047	1,127	1,086	1,898	2,007	2,037	114	39	103	33
Woodstock.....	334	395	408	157	156	180	177	239	228	10	31	9	22
Manitoba—													
Brandon.....	442	529	600	195	210	198	247	319	402	19	43	13	22
St. Boniface.....	657	751	824	179	210	203	478	541	621	22	33	25	30
Winnipeg.....	5,200	5,690	6,065	2,254	2,459	2,506	2,946	3,231	3,559	164	31	151	25
Saskatchewan—													
Moose Jaw.....	613	761	868	237	289	284	376	472	584	24	39	25	29
Prince Albert.....	481	542	562	134	132	127	347	410	435	23	48	18	32
Regina.....	1,665	2,133	2,400	493	597	639	1,172	1,536	1,761	58	35	57	24
Saskatoon.....	1,393	1,821	2,026	435	558	501	958	1,263	1,525	57	41	47	23
Alberta—													
Calgary.....	2,968	4,285	4,774	1,094	1,324	1,342	1,874	2,961	3,432	100	34	130	27
Edmonton.....	4,122	6,529	7,269	1,037	1,354	1,416	3,085	5,175	5,853	130	31	157	22
Lethbridge.....	567	797	898	167	208	190	400	589	708	18	32	20	22
Medicine Hat.....	397	438	522	139	179	174	258	259	348	14	35	11	21
British Columbia—													
New Westminster.....	587	610	628	257	253	315	330	357	313	15	26	16	25
North Vancouver.....	512	873	547	184	218	160	328	655	387	10	20	8	15
Penticton.....	..	251	257	..	83	100	..	168	157	..	7	9	35
Trail.....	349	408	357	69	66	88	280	342	269	7	20	13	36
Vancouver.....	7,367	7,880	7,922	3,903	4,296	4,313	3,464	3,584	3,609	190	26	174	22
Victoria.....	1,148	1,174	1,184	749	760	757	399	414	427	26	23	17	14

¹ As at the 1951 Census.² Per 1,000 live births.³ Not available for the first year of the period.

Section 2.—Births*

In Canada, the birth rate in 1921 was 29 per 1,000 population. As a rate of 35 per 1,000 is very high for countries of modern western civilization the Canadian birth rate had probably not fallen far or for long before 1921. It fell continuously until 1937 when it was 20 per 1,000 but then, owing to economic recovery and the War, it rose to 22 in 1940, to 24 in 1943 and reached its highest point in 1947 at 28·9. As in most other countries there was a slight decline in 1948 but the Canadian rate remained remarkably steady at just over 27 for the four years 1948 to 1951. It rose to 27·9 in 1952 when for the first time more than 400,000 births were registered. It continued to rise to 28·2 in 1953 and 28·7 in 1954. The birth rates in the provinces followed the same general trend with particularly high rates reported in 1954.

It has always been assumed that the Province of Quebec has had the highest birth rate in Canada, but Table 1 shows that since the late 1930's or early 1940's Newfoundland and New Brunswick have had higher birth rates than Quebec. In 1954 Newfoundland had a crude rate of 34·3, New Brunswick 30·4 and Quebec 30·4; Prince Edward Island and British Columbia had the lowest rates with 25·9 and 26·0 respectively. However these crude rates are based on total population and therefore do not reflect the fertility of the women who are of reproductive age in the different provinces. A more accurate measure of fertility is the rate based on the number of married women in the population in the reproductive age group, 15 to 49. The following figures, based on the 1951 Census, give the birth rates per 1,000 married women in the age group 15 to 49 by province:—

Newfoundland.....	220	Quebec.....	193	Alberta.....	160
Prince Edward Island....	186	Ontario.....	138	British Columbia.....	130
Nova Scotia.....	162	Manitoba.....	147	CANADA (exclusive of the	
New Brunswick.....	200	Saskatchewan.....	155	Territories).....	160

On this basis Newfoundland still had the highest birth rate, followed by New Brunswick and Quebec, and British Columbia had the lowest rate.

Sex of Live Births.—Wherever birth statistics have been collected they have shown an excess of male over female births. No conclusive explanation of this excess has yet been given. Nevertheless it is so much of an accepted statistical fact that a proper ratio of male to female births has become one of the criteria of complete registration. The number of males to every 1,000 females born in Canada in 1941-54 varied between 1,052 and 1,067. In 1954 there were 1,057 males born for every 1,000 females. Variations in the provincial sex ratios result from chance variation because of the relatively small number of births involved—the smaller the total number of births, the greater the chance of wide sex-ratio variations from year to year.

* For international comparisons see Section 8, pp. 234-35.

3.—Sex Ratio of Live Births by Province 1921-54

Province and Year	Male	Female	Males to 1,000 Females	Province and Year	Male	Female	Males to 1,000 Females
	No.	No.	No.		No.	No.	No.
Newfoundland.....1951	5,984	5,754	1,040	Nova Scotia.....1921	6,695	6,326	1,058
1952	6,443	6,118	1,053	1931	5,931	5,684	1,043
1953	6,534	6,263	1,043	1941	7,074	6,829	1,036
1954	7,026	6,627	1,060	1951	8,842	8,283	1,067
P.E. Island.....1921	1,073	1,083	991	1952	9,275	8,676	1,069
1931	998	881	1,132	1953	9,360	8,916	1,050
1941	1,078	971	1,110	1954	9,712	9,197	1,056
1951	1,373	1,278	1,074	New Brunswick.....1921	5,942	5,523	1,076
1952	1,405	1,298	1,082	1931	5,548	5,253	1,056
1953	1,368	1,369	999	1941	6,200	6,072	1,021
1954	1,405	1,319	1,065	1951	8,190	7,885	1,039

3.—Sex Ratio of Live Births by Province 1921-54—concluded

Province and Year		Male	Female	Males to 1,000 Females	Province and Year		Male	Female	Males to 1,000 Females
		No.	No.	No.			No.	No.	No.
New Brunswick —concl.	1952	8,429	8,262	1,020	Saskatchewan —concl.	1951	11,107	10,626	1,045
	1953	8,491	7,967	1,066		1952	11,659	10,946	1,065
	1954	8,603	8,046	1,069		1953	12,122	11,581	1,047
Quebec.....	1921	46,705	42,044	1,111	Alberta.....	1921	8,493	8,068	1,053
	1931	43,051	40,555	1,062		1931	8,938	8,314	1,075
	1941	45,905	43,304	1,060		1941	8,882	8,426	1,054
	1951	62,160	58,770	1,058		1951	13,760	13,243	1,039
	1952	65,265	61,151	1,067		1952	14,969	14,136	1,059
	1953	66,110	62,609	1,056		1953	16,169	15,207	1,063
Ontario.....	1954	68,533	64,645	1,060	1954	17,394	16,199	1,074	
	1921	38,307	35,845	1,069	British Columbia..	1921	5,549	5,104	1,087
	1931	35,609	33,600	1,060		1931	5,350	5,054	1,059
	1941	37,254	35,008	1,064		1941	7,694	7,344	1,048
	1951	59,220	55,607	1,065		1951	14,418	13,659	1,056
	1952	63,986	59,905	1,068		1952	15,413	14,414	1,069
1953	66,514	63,257	1,051	1953		16,428	15,318	1,072	
Manitoba.....	1954	69,786	66,475	1,050	1954	16,919	16,027	1,056	
	1921	9,455	9,023	1,048	Canada (exclusive of the Territories)	1921	133,839	123,889	1,080
	1931	7,255	7,121	1,019		1931	123,622	116,851	1,058
	1941	7,616	7,196	1,058		1941	131,175	124,142	1,057
	1951	10,374	9,568	1,084		1951	195,428	184,673	1,058
	1952	10,630	10,147	1,048		1952	207,474	195,053	1,064
1953	10,800	10,442	1,034	1953		213,896	202,929	1,054	
Saskatchewan.....	1954	11,321	10,927	1,036	1954	223,613	211,529	1,057	
	1921	11,620	10,873	1,069					
	1931	10,942	10,389	1,053					
	1941	9,472	8,992	1,053					

Hospitalized Births.—In 1954 over 84 p.c. of all Canadian births occurred in hospital. Although the proportions of hospitalized births have increased steadily since 1921 in all provinces these proportions still vary widely. The existence of prepaid or provincially sponsored hospital, maternity or medical care plans in some provinces, the unavailability of hospital facilities in others, particularly in remote rural areas, and preference for home delivery in some local areas are among the factors accounting for provincial variations in this respect. The noticeable increases in hospitalized births within recent years in those provinces that previously had the lowest proportion may be partly the result of increased hospital services and facilities being provided in those areas.

4.—Percentage of Live Births Hospitalized by Province 1931-54

(Exclusive of Newfoundland, Yukon and the Northwest Territories)

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1931.....	11.2	19.0	12.1	7.3	38.2	43.6	32.5	47.8	65.0	26.8
1941.....	32.7	50.4	30.8	17.6	67.5	73.6	63.2	77.1	87.3	48.9
1949.....	81.2	82.2	66.4	44.4	89.2	89.9	93.9	95.6	96.7	74.3
1950.....	84.3	84.9	67.8	47.8	90.4	91.1	94.6	95.8	96.9	76.0
1951.....	88.3	87.2	70.7	53.0	93.1	93.1	95.2	93.6	97.3	79.1
1952.....	87.1	88.8	74.0	56.7	94.6	93.7	96.4	96.4	97.5	81.5
1953.....	91.9	90.4	77.4	60.3	95.7	94.7	96.4	93.9	97.6	83.4
1954.....	93.5	91.9	79.9	62.4	96.1	95.8	97.4	94.6	97.9	84.7

Births in Urban Centres.—Table 2, pp. 202-203, shows the number of births in 1953 and 1954, regardless of where they occurred, to mothers residing in urban centres of over 10,000 population.

Illegitimacy.—In 1954 less than 4 p.c. of the live births in Canada were illegitimate. This percentage is low compared with that of many countries of the world. In the five year period 1926-30 it was 3 p.c., whereas the average of the ten years 1945-54 was just over 4 p.c. The apparent increase was partly the result of more complete registration of illegitimate births brought about by the co-operation of provincial registration officials and social welfare agencies.

5.—Illegitimate Live Births and Percentages of Total Live Births by Province 1921-54

(Exclusive of Yukon and the Northwest Territories)

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada ¹
ILLEGITIMATE LIVE BIRTHS											
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Av. 1921-25.....	..	46	457	245	..	1,658	407	291	321	152	..
" 1926-30.....	168	42	558	299	2,334	2,196	501	489	479	240	7,138
" 1931-35.....	205	74	652	373	2,431	2,707	501	651	613	330	8,333
" 1936-40.....	246	83	766	415	2,539	2,939	506	663	643	475	9,030
" 1941-45.....	406	107	1,074	591	3,003	3,751	597	673	852	889	11,536
" 1946-50.....	441	152	1,244	754	3,382	4,256	766	914	1,202	1,516	14,375
1951.....	417	138	1,147	643	3,650	3,807	771	971	1,272	1,633	14,449
1952.....	315	118	1,041	648	3,913	3,920	952	994	1,310	1,857	15,068
1953.....	411	145	1,034	661	4,163	4,080	988	1,043	1,559	1,896	15,980
1954.....	488	127	1,060	658	4,420	4,251	1,094	1,128	1,562	2,042	16,830
PERCENTAGES OF TOTAL LIVE BIRTHS											
Av. 1921-25.....	..	2.3	3.8	2.2	..	2.3	2.5	1.3	2.1	1.5	..
" 1926-30.....	2.5	2.4	5.1	2.9	2.8	3.2	3.5	2.3	3.0	2.3	3.0
" 1931-35.....	3.1	3.8	5.7	3.6	3.1	4.2	3.7	3.2	3.7	3.3	3.6
" 1936-40.....	3.2	4.0	6.4	3.7	3.2	4.6	3.7	3.6	3.9	3.9	3.9
" 1941-45.....	4.4	4.9	7.1	4.5	3.1	4.8	3.8	3.6	4.5	5.0	4.2
" 1946-50.....	3.6	5.3	6.9	4.5	2.9	4.0	4.0	4.2	4.9	5.9	4.1
1951.....	3.6	5.2	6.7	4.0	3.0	3.3	3.9	4.5	4.7	5.8	3.8
1952.....	2.5	4.4	5.8	3.9	3.1	3.2	4.6	4.4	4.5	6.2	3.7
1953.....	3.2	5.3	5.7	4.0	3.2	3.1	4.7	4.4	5.0	6.0	3.8
1954.....	3.6	4.7	5.6	4.0	3.3	3.1	4.9	4.5	4.6	6.2	3.9

¹ Figures for Newfoundland are included for 1949-54 only.

Stillbirths.—The rate of stillbirths has been falling since 1926 though not equally in all provinces. The rate of stillbirths to unmarried mothers has always been considerably higher than that for married mothers and consequently higher than the over-all rate; but this difference has been disappearing in recent years.

6.—Stillbirths and Rates per 1,000 Live Births by Province 1921-54

(Exclusive of Yukon and the Northwest Territories)

Year	Born to All Mothers											Born to Un- married Mothers ¹	
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada ²	No.	P.C. of Total
STILLBIRTHS													
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Av. 1921-25.....	..	57	457	288	2,659	3,083	546	601	418	295	8,403	..	..
" 1926-30.....	128	43	365	283	2,212	2,761	479	551	467	297	7,458	356	4.77
" 1931-35.....	141	67	401	302	2,337	2,284	383	488	421	247	6,930	381	5.50
" 1936-40.....	162	61	334	282	2,386	2,008	340	393	359	248	6,410	337	5.26
" 1941-45.....	191	50	388	295	2,786	1,988	345	348	327	309	6,838	355	5.20
" 1946-50.....	215	54	358	320	2,898	2,020	349	350	385	352	7,177	343	4.85
1951.....	189	56	319	293	2,768	1,975	340	303	402	365	7,010	327	4.79
1952.....	226	45	369	281	2,805	2,085	361	314	399	375	7,260	341	4.85
1953.....	213	55	337	307	2,592	1,952	345	319	476	375	6,971	290	4.29
1954.....	242	59	326	313	2,805	2,027	323	327	418	373	7,213	296	4.25
RATES PER 1,000 LIVE BIRTHS												Per 1,000 Illegitimate Live Births ¹	
Av. 1921-25.....	..	29.1	37.7	26.0	30.5	43.1	32.9	27.9	27.0	28.7	33.9	..	..
" 1926-30.....	19.0	24.8	33.1	27.4	26.7	40.2	33.3	25.9	29.3	28.7	31.5	49.9	49.9
" 1931-35.....	21.1	34.2	34.9	28.9	29.6	35.1	28.0	24.0	25.4	24.7	30.3	45.7	45.7
" 1936-40.....	21.2	29.7	27.7	25.4	30.4	31.2	25.2	21.0	22.0	20.5	28.0	37.3	37.3
" 1941-45.....	20.5	22.8	25.6	22.6	28.5	25.6	21.8	18.9	17.4	17.5	24.7	30.8	30.8
" 1946-50.....	17.4	18.9	19.9	19.0	25.1	19.2	18.1	16.0	15.9	13.6	20.2	24.2	24.2
1951.....	16.1	21.1	18.6	18.2	22.9	17.2	17.0	13.9	14.9	13.0	18.4	23.3	23.3
1952.....	18.0	16.6	20.6	16.8	22.2	16.8	17.4	13.9	13.7	12.6	18.0	23.1	23.1
1953.....	16.6	20.1	18.4	18.7	20.1	15.0	16.2	13.5	15.2	11.8	16.7	18.6	18.6
1954.....	17.7	21.7	17.2	18.8	21.1	14.9	14.5	13.1	12.4	11.3	16.6	18.1	18.1

¹ Exclusive of Newfoundland.² Figures for Newfoundland are included for 1951-54 only.

Multiple Births.—Approximately one confinement in 85 in Canada results in the birth of more than one child. In the period 1926-54 there have been 96,555 such confinements, of which 95,667 were twins and 875 were triplets. There have been twelve sets of quadruplets and one set of quintuplets—the Dionne quintuplets who were born in 1934.

The proportion of stillbirths is higher among multiple than among single births. It is about twice as high for twins and between three and five times as high for triplets.

7.—Single and Multiple Births, Live and Stillborn 1951-54

(Exclusive of Yukon and the Northwest Territories)

Confinements and Births	Numbers				Percentages			
	1951	1952	1953	1954	1951	1952	1953	1954
Confinements	382,660	405,122	419,135	437,417	100.0	100.0	100.0	100.0
Single.....	378,246	400,496	414,529	432,525	98.8	98.9	98.9	98.9
Twin.....	4,377	4,587	4,553	4,847	1.1	1.1	1.1	1.1
Triplet.....	37	39	51	44	--	--	--	--
Quadruplet.....	—	—	2	1	—	—	—	—
Births	387,111	409,787	423,796	442,355	100.0	100.0	100.0	100.0
Single—								
Live.....	371,539	393,597	407,898	425,615	98.2	98.3	98.4	98.4
Stillborn.....	6,707	6,899	6,631	6,910	1.8	1.7	1.6	1.6
Twin—								
Live.....	8,458	8,822	8,777	9,398	96.6	96.2	96.4	96.9
Stillborn.....	296	352	329	296	3.5	3.8	3.6	3.1
Triplet—								
Live.....	104	108	142	125	93.7	92.3	92.8	94.7
Stillborn.....	7	9	11	7	6.3	7.7	7.2	5.3
Quadruplet—								
Live.....	—	—	8	4	—	—	100.0	100.0
Stillborn.....	—	—	—	—	—	—	—	—
Totals, Live Births	380,101	402,527	416,825	435,142	98.2	98.2	98.4	98.4
Totals, Stillborn	7,010	7,260	6,971	7,213	1.8	1.8	1.6	1.6

Fertility Rates.—Sex and age distribution of the population is an important factor in determining birth, death and marriage rates. More than 95 p.c. of children born are to women between the ages of 15 and 50, so that, as noted earlier, variations in the proportion of women of these ages to the population as a whole will cause variations in the birth rates of different countries or regions even though the fertility of women at each age may be the same. Measures of fertility which are independent of the sex and age distribution of the population have therefore been devised. The best known of these are age-specific fertility rates and reproduction rates.

Ages of Parents.—Ages of the parents is an important variable in any analysis of birth statistics. The numerical and percentage distribution of legitimate live births by the age group of the parents is given for 1941, 1953 and 1954 in Table 8, of illegitimate live births by the age group of the mother in Table 9, of stillbirths by the age group of the mother in Table 10, as well as the average ages of the parents for each year shown.

Besides the fertility rates at each age three other factors help, in the main, to determine the average age of parents having children: firstly the average age of potential parents at any point in time, that is, of the population between the ages of 15 and 50; secondly the average age of couples at marriage; and thirdly the proportions of first and second births to total births. Other things being equal a high proportion of first and second births will result in a lower average age of parents. In 1930-32 first and second births were 43 p.c. of the total births but for the period 1945-48 first and second births together were 57 p.c. of the total. This change is very great and accounts for the lower average age of parents in the latter period. However the proportion of first and second births had declined to approximately 53 p.c. in 1952 and 52 p.c. in 1954.

These tables illustrate other significant facts: that the average age of fathers of legitimate children is about four years higher than the average age of mothers; that the average age of mothers of illegitimate children is four to five years lower than the average age of mothers of legitimate children—in 1930-32 the difference was six years (the fact that about 70 p.c. of illegitimate children are born to mothers under 25 years of age accounts for this difference); and that the average age of mothers of stillborn children is higher than that of the live born. Further, Table 10 shows that the rate of stillbirths per 1,000 live births increases with the age of the mother. It is over three times as high among mothers of 40-44 years and over four times as high among mothers of 45-49 years as it is among mothers at the ages of 20-24.

8.—Legitimate Live Births by Age of Parent 1941, 1953 and 1954

(Exclusive of Newfoundland, Yukon and the Northwest Territories)

Age Group	Fathers						Mothers					
	1941		1953		1954		1941		1953		1954	
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
Under 20 years.....	1,203	0.5	3,023	0.8	3,257	0.8	14,185	5.8	22,192	5.7	23,723	5.9
20 — 24 “.....	29,857	12.2	59,719	15.5	63,665	15.8	67,185	27.4	106,563	27.4	111,643	27.6
25 — 29 “.....	69,184	28.2	111,524	28.9	116,097	28.8	74,461	30.4	117,591	30.3	120,544	29.8
30 — 34 “.....	63,436	25.9	96,738	25.0	101,243	25.1	49,484	20.2	83,007	21.4	87,584	21.6
35 — 39 “.....	42,508	17.4	62,911	16.3	63,844	15.8	28,507	11.6	44,189	11.4	45,590	11.3
40 — 44 “.....	22,711	9.3	33,665	8.7	35,728	8.9	10,163	4.1	13,647	3.5	14,704	3.6
45 — 49 “.....	10,567	4.3	13,064	3.4	13,732	3.4	1,049	0.4	999	0.3	1,157	0.3
50 years or over.....	5,515	2.3	5,548	1.4	6,030	1.5	19	--	20	--	14	--
Totals, Stated Ages.....	244,981	100.0	386,192	100.0	403,596	100.0	245,053	100.0	388,208	100.0	404,959	100.0
Ages not stated.....	235	...	2,267	...	1,551	...	163	...	251	...	188	...
Totals, All Ages.....	245,216	100.0	388,459	100.0	405,147	100.0	245,216	100.0	388,459	100.0	405,147	100.0
Average ages.....	32.7		31.9		31.9		28.5		28.4		28.4	

9.—Illegitimate Live Births by Age of the Mother 1941, 1953 and 1954

(Exclusive of Newfoundland, Yukon and the Northwest Territories)

Age Group of Mother	1941		1953		1954	
	No.	p.c.	No.	p.c.	No.	p.c.
Under 20 years.....	2,762	29.9	4,909	32.7	5,128	32.5
20 — 24 “.....	3,666	39.7	5,536	36.9	5,816	36.8
25 — 29 “.....	1,633	17.7	2,411	16.1	2,554	16.2
30 — 34 “.....	661	7.2	1,286	8.6	1,368	8.7
35 — 39 “.....	368	4.0	630	4.2	682	4.3
40 — 44 “.....	124	1.3	206	1.4	221	1.4
45 — 49 “.....	16	0.2	16	0.1	22	0.1
50 years or over.....	1	--	—	—	2	--
Totals, Stated Ages.....	9,231	100.0	14,994	100.0	15,793	100.0
Ages not stated.....	870	...	575	...	549	...
Totals, All Ages.....	10,101	100.0	15,569	100.0	16,342	100.0
Average ages of mothers.....	23.9		23.9		23.9	

10.—Stillbirths and Rates per 1,000 Live Births by Age of the Mother 1941, 1953 and 1954

(Exclusive of Newfoundland, Yukon and the Northwest Territories)

Age Group of Mother	Stillbirths						Rates per 1,000 Live Births		
	1941		1953		1954		1941	1953	1954
	No.	p.c.	No.	p.c.	No.	p.c.			
Under 20 years.....	383	5.6	381	5.7	363	5.2	22.6	14.1	12.6
20 — 24 “.....	1,486	21.8	1,373	20.4	1,455	21.0	21.0	12.2	12.4
25 — 29 “.....	1,862	27.3	1,750	26.0	1,717	24.7	24.5	14.6	13.9
30 — 34 “.....	1,442	21.1	1,462	21.7	1,543	22.2	28.8	17.3	17.3
35 — 39 “.....	1,081	15.8	1,173	17.4	1,171	16.9	37.4	26.2	25.3
40 — 44 “.....	496	7.3	522	7.7	615	8.9	48.2	37.7	41.2
45 — 49 “.....	74	1.1	75	1.1	79	1.1	69.5	73.9	67.0
50 years or over.....	3	--	1	--	—	—	--	--	--
Totals, Stated Ages.....	6,827	100.0	6,737	100.0	6,943	100.0	...	...	...
Ages not stated.....	55	...	21	...	28	...	...	...	...
Totals, All Ages.....	6,882	100.0	6,758	100.0	6,971	100.0	27.0	16.7	16.5
Average ages of mothers.....	29.9		30.2		30.4		...	...	...

Order of Birth.—Table 11 shows the order of birth of all live born children according to the age of the mother. Nearly 28 p.c. of live born children in 1954 were first children. Among the illegitimate almost 68 p.c. were the first born.

11.—Order of Birth of Live Born Children by Age of Mother 1953 and 1954

(Exclusive of Newfoundland, Yukon and the Northwest Territories)

Order of Birth of Child	Age of Mother									
	Under 15	15-19	20-24	25-29	30-34	35-39	40-44	45 or Over	Age Not Stated	All Ages
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1953										
1st child.....	127	20,648	51,172	26,668	10,033	3,362	811	46	601	113,468
2nd “.....	—	5,256	35,442	34,797	16,838	5,792	1,142	43	69	99,380
3rd “.....	—	916	16,143	26,056	18,345	7,640	1,605	52	48	70,805
4th “.....	—	128	6,303	15,420	13,658	6,709	1,588	76	25	43,907
5th “.....	—	15	2,140	8,538	8,819	5,222	1,382	82	18	26,216
6th “.....	—	1	656	4,553	5,999	3,895	1,246	90	14	16,454
7th “.....	—	1	172	2,229	4,016	3,092	1,062	57	5	10,634
8th “.....	—	1	43	1,039	2,739	2,518	912	72	5	7,329
9th “.....	—	—	13	457	1,794	1,961	827	76	3	5,131
10th “.....	—	—	3	168	1,010	1,565	710	80	—	3,536
11th “.....	—	—	—	47	555	1,109	624	62	2	2,399
12th “.....	—	—	—	14	277	810	544	74	—	1,719
13th “.....	—	—	—	5	122	504	474	68	1	1,174
14th “.....	—	—	—	2	56	287	316	40	1	702
15th “.....	—	—	—	1	20	182	246	46	—	495
16th “.....	—	—	—	1	6	78	155	28	—	268
17th “.....	—	—	—	—	1	49	93	18	—	161
18th “.....	—	—	—	—	2	23	61	14	—	100
19th “.....	—	—	—	—	—	13	33	6	—	52
20th or over.....	—	—	—	—	—	5	20	5	—	30
Not stated.....	—	7	12	7	3	3	2	—	34	68
Totals.....	128	26,973	112,099	120,002	84,293	44,819	13,853	1,035	826	404,028

11.—Order of Birth of Live Born Children by Age of Mother 1953 and 1954—concluded

Order of Birth of Child	Age of Mother									All Ages
	Under 15	15-29	20-24	25-29	30-34	35-39	40-44	45 or Over	Age Not Stated	
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1954										
1st child.....	131	22,014	52,719	27,301	10,104	3,411	791	44	556	117,071
2nd ".....	3	5,534	37,615	34,798	17,353	5,653	1,166	66	56	102,244
3rd ".....	—	1,010	17,215	27,054	19,380	7,522	1,708	64	32	73,985
4th ".....	—	130	6,624	16,041	14,536	7,089	1,747	89	26	46,282
5th ".....	—	23	2,310	8,929	9,561	5,590	1,552	101	11	28,077
6th ".....	—	6	709	4,776	6,370	4,222	1,356	90	12	17,541
7th ".....	—	—	187	2,411	4,462	3,243	1,179	87	4	11,573
8th ".....	—	—	58	1,046	2,912	2,634	1,034	68	3	7,755
9th ".....	—	—	11	463	1,918	2,131	897	88	1	5,509
10th ".....	—	—	5	182	1,161	1,643	806	82	—	3,879
11th ".....	—	—	3	59	627	1,143	660	71	—	2,563
12th ".....	—	—	1	20	315	544	562	81	—	1,823
13th ".....	—	—	—	3	146	518	463	72	—	1,202
14th ".....	—	—	—	5	51	283	355	64	—	758
15th ".....	—	—	—	1	35	159	237	47	—	479
16th ".....	—	—	—	—	7	104	185	39	—	335
17th ".....	—	—	—	—	3	39	102	17	—	161
18th ".....	—	—	—	1	1	19	57	10	—	88
19th ".....	—	—	—	—	1	10	34	7	—	52
20th or over.....	—	—	—	—	—	3	29	8	4	44
Not stated.....	—	—	2	8	9	12	5	—	32	68
Totals.....	134	28,717	117,459	123,098	88,952	46,272	14,925	1,195	737	421,489

Section 3.—Deaths*

Since 1931 the Canadian death rate has fluctuated between 10·3 and 8·2 per 1,000 of the population, declining in recent years to a record low of 8·2 in 1954. Table, 1 pp. 199-201, shows that this decline has been apparent in varying degrees in all provinces. The generally low rates in the Prairie Provinces are partly the result of their younger average population; the uniformly higher rate in British Columbia is the result of the increasing proportion of people in the older age groups.

Subsection 1.—General Mortality

Sex and Age Distribution of Deaths.—Despite reductions in infant mortality over the past 25 or 30 years more deaths still occur in the first year of life than in any other single year. Of the 107,000 deaths occurring in 1926, 31,000 or almost 30 p.c. were of children under five years of age and three-quarters of those were of children under one year of age. Of approximately 124,500 deaths in 1954, over 16,000 or nearly 13 p.c. were of children under five years of age and over 83 p.c. of those were under one year. Most of the reduction took place among children over the age of one month but there was a notable decrease in all childhood ages up to five years.

Tremendous reductions have taken place in the mortality pattern since the early 1920's, with the most important reductions in the childhood and early adult ages. In 1926 over 19 p.c. of all male deaths were of persons five to 45 years of age; in 1954 these accounted for less than 11 p.c. of total deaths. The reduction in mortality among females in this age group is equally remarkable, the proportion dropping from 22 p.c. to approxi-

* For international comparisons see Section 8, pp. 234-35.

mately 9 p.c. Death rates for males up to age 45 have been roughly halved during the past 25 years; those for females in the same ages have been reduced as much as three to four times.

These reductions in the mortality rates in early and middle years of life have had the effect of increasing the number of people in the older age groups and of raising the average age of the population as a whole. As a natural consequence much larger proportions of deaths are now occurring at the older ages. Further, the reductions in rates will eventually raise the average age at death. In 1921 the average age at death of males was 39.0 years and of females 41.1 years; by 1954 this had advanced to 57.3 and 60.0 respectively. These trends are indicated clearly in Table 12.

12.—Distribution of Deaths by Age and Sex 1921, 1931, 1941, 1953 and 1954

Age Group	1921 ¹		1931		1941		1953		1954	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
NUMBER										
Under 5 years.....	10,827	8,303	14,511	11,226	10,666	8,014	9,858	7,350	9,245	6,840
5 — 9 “.....	1,166	979	1,241	963	888	670	789	394	696	407
10 — 14 “.....	674	611	821	806	787	536	474	278	439	222
15 — 19 “.....	866	741	1,311	1,132	1,118	823	764	311	653	300
20 — 24 “.....	947	946	1,502	1,453	1,332	1,039	1,057	427	952	378
25 — 29 “.....	1,046	1,035	1,388	1,414	1,317	1,173	953	590	936	531
30 — 34 “.....	1,002	1,051	1,301	1,432	1,211	1,148	1,065	670	1,021	669
35 — 39 “.....	1,263	1,223	1,512	1,574	1,497	1,242	1,339	925	1,209	901
40 — 44 “.....	1,254	1,073	1,838	1,493	1,744	1,464	1,846	1,275	1,770	1,271
45 — 49 “.....	1,345	1,066	2,314	1,738	2,416	1,817	2,549	1,566	2,415	1,544
50 — 54 “.....	1,492	1,288	2,855	1,993	3,355	2,227	3,696	2,154	3,646	2,060
55 — 59 “.....	1,727	1,337	3,057	2,246	4,394	2,851	4,764	2,775	4,656	2,633
60 — 64 “.....	2,121	1,652	3,583	2,855	5,288	3,483	6,382	3,835	6,379	3,679
65 — 69 “.....	2,277	1,976	4,249	3,348	6,057	4,412	8,168	5,179	8,172	5,005
70 — 74 “.....	2,550	2,184	4,867	4,073	6,495	4,981	9,244	6,605	9,227	6,455
75 — 79 “.....	2,378	2,135	4,368	4,029	6,421	5,461	8,532	7,041	8,639	6,942
80 — 84 “.....	1,833	1,799	3,206	3,215	5,020	4,906	6,440	6,071	6,552	5,918
85 years or over.....	1,643	1,912	2,555	2,998	3,846	4,540	5,497	6,518	5,533	6,625
Totals, All Ages.....	36,411	31,311	56,529	47,988	63,852	50,787	73,417	53,964	73,140	52,380
PERCENTAGE										
Under 5 years.....	29.8	26.5	25.7	23.4	16.7	15.8	13.4	13.6	12.8	13.1
5 — 9 “.....	3.2	3.1	2.2	2.0	1.4	1.3	1.1	0.7	1.0	0.8
10 — 14 “.....	1.9	2.0	1.5	1.7	1.2	1.1	0.6	0.5	0.6	0.4
15 — 19 “.....	2.4	2.4	2.3	2.4	1.8	1.6	1.0	0.6	0.9	0.6
20 — 24 “.....	2.6	3.0	2.7	3.0	2.1	2.0	1.4	0.8	1.3	0.7
25 — 29 “.....	2.9	3.3	2.5	2.9	2.1	2.3	1.3	1.1	1.3	1.0
30 — 34 “.....	2.7	3.4	2.3	3.0	1.9	2.3	1.5	1.2	1.4	1.3
35 — 39 “.....	3.5	3.9	2.7	3.3	2.3	2.4	1.8	1.7	1.7	1.7
40 — 44 “.....	3.4	3.4	3.3	3.1	2.7	2.9	2.5	2.4	2.5	2.4
45 — 49 “.....	3.7	3.4	4.1	3.6	3.8	3.6	3.5	2.9	3.3	2.9
50 — 54 “.....	4.1	4.1	5.0	4.2	5.3	4.4	5.0	4.0	5.1	3.9
55 — 59 “.....	4.7	4.3	5.4	4.7	6.9	5.6	6.5	5.1	6.5	5.0
60 — 64 “.....	5.8	5.3	6.3	5.9	8.3	6.9	8.7	7.1	8.8	7.0
65 — 69 “.....	6.2	6.3	7.5	7.0	9.5	8.7	11.1	9.6	11.3	9.6
70 — 74 “.....	7.0	7.0	8.6	8.5	10.2	9.8	12.6	12.2	12.8	12.3
75 — 79 “.....	6.5	6.8	7.7	8.4	10.1	10.7	11.6	13.0	12.0	13.3
80 — 84 “.....	5.0	5.7	5.7	6.7	7.9	9.7	8.8	11.3	9.1	11.3
85 years or over.....	4.5	6.1	4.5	6.2	6.0	8.9	7.5	12.1	7.7	12.6
Totals, All Ages.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹ Excludes the Province of Quebec.

12.—Distribution of Deaths by Age and Sex 1921, 1931, 1941, 1953 and 1954—concluded

Age Group	1921 ¹		1931		1941		1953		1954	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
RATE PER 1,000 POPULATION										
Under 5 years.....	28.9	22.7	26.8	21.2	20.0	15.5	10.5	8.2	9.5	7.4
5 — 9	3.1	2.7	2.2	1.7	1.7	1.3	1.0	0.5	0.8	0.5
10 — 14	2.1	1.9	1.5	1.5	1.4	1.0	0.8	0.5	0.7	0.4
15 — 19	3.1	2.7	2.5	2.2	2.0	1.5	1.4	0.6	1.2	0.6
20 — 24	3.7	3.7	3.2	3.2	2.6	2.0	1.9	0.8	1.7	0.7
25 — 29	4.0	4.1	3.4	3.8	2.7	2.5	1.7	1.0	1.6	0.9
30 — 34	3.8	4.5	3.5	4.2	2.8	2.8	2.0	1.2	1.9	1.2
35 — 39	4.7	5.5	4.2	4.8	3.8	3.4	2.6	1.8	2.3	1.7
40 — 44	5.6	5.9	5.4	5.0	5.0	4.5	3.9	2.8	3.6	2.7
45 — 49	7.3	7.1	7.2	6.6	7.3	6.0	6.2	4.1	5.7	3.9
50 — 54	9.8	10.2	10.7	9.0	10.6	8.1	10.4	6.4	10.0	6.0
55 — 59	15.2	13.5	15.4	13.4	16.0	12.3	15.7	9.5	15.1	8.8
60 — 64	21.9	19.7	22.9	20.7	24.2	18.5	24.2	15.4	24.1	14.5
65 — 69	33.4	33.2	35.2	30.3	37.3	30.4	35.3	24.3	35.3	23.1
70 — 74	56.9	52.8	55.0	49.1	58.5	47.0	53.7	39.9	52.0	37.8
75 — 79	89.4	80.9	87.4	82.9	95.7	79.7	82.4	67.6	79.8	63.4
80 — 84	133.8	122.4	134.1	127.1	147.6	131.2	129.3	111.0	125.0	103.3
85 years or over.....	228.2	224.9	228.1	212.6	241.9	229.3	231.9	208.9	227.7	207.7
Totals, All Ages.....	10.9	10.2	10.5	9.6	10.8	9.1	9.8	7.4	9.4	7.0
Average age at death....	39.0	41.1	43.1	44.8	51.5	53.4	56.5	59.4	57.3	60.0

¹ Excludes the Province of Quebec.

Deaths in Urban Centres.—In Table 2 (pp. 202-203) deaths are classified by place of residence of the decedent. Death rates in urban centres vary only slightly from those of their respective provinces. However owing to the influx of young people from the rural areas the age distribution of the population in urban centres is often more favourable to a low death rate than that of the province as a whole.

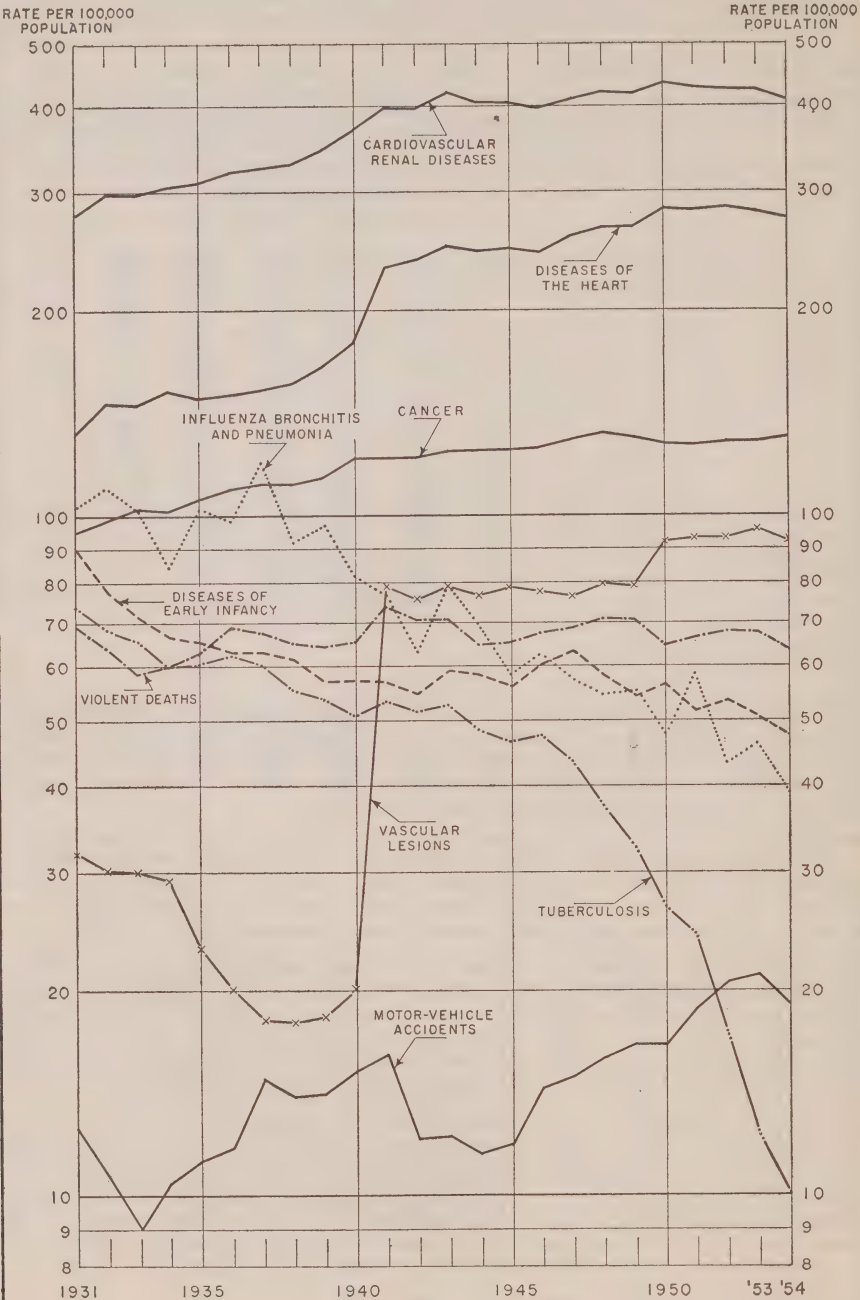
Causes of Death.—Table 13 shows the deaths in Canada grouped according to the International Abbreviated List of 50 Causes. About 80 p.c. are in the following groups of causes: diseases of the heart and arteries, cancer, accidents, diseases of early infancy, the respiratory diseases—tuberculosis, pneumonia and influenza—and nephritis.

The rise in the average age at death has already been noted (p. 212). Causes of death that mainly affect children and young adults have declined. Diphtheria for example has been almost wiped out and tuberculosis has been greatly reduced. On the other hand the ageing of the population increases the proportion of deaths from certain causes that affect older people. Thus cancer and the diseases of the cardio-vascular-renal systems now account for a substantially larger proportion of all deaths than formerly.

These trends indicate the remarkable success that has attended the attack by health authorities on the infective and contagious diseases which in the past have constituted such a great hazard in the early and young adult years of life. They have similarly served to emphasize the emergence of the chronic and degenerative conditions of later life as the targets towards which the public health programs of the future will be directed. In effect Canada has shared the experience of most western nations in exchanging a high mortality in younger life for high morbidity in older age groups.

The following graphic presentation shows death rates for the major cause groups from 1931-54.

MAJOR CAUSES OF DEATH



13.—Deaths and Rates per 100,000 Population according to the International Abbreviated List of 50 Causes 1952-54

(Exclusive of Yukon and the Northwest Territories)

International List No.		Cause of Death	Number of Deaths			Rates per 100,000 Population		
Abbreviated List	Detailed List		1952	1953	1954	1952	1953	1954
B 1	001-008	Tuberculosis of respiratory system...	2,017	1,462	1,299	14.0	9.9	8.6
B 2	010-019	Tuberculosis, other forms.....	440	348	263	3.1	2.4	1.7
B 3	020-029	Syphilis and its sequelae.....	297	283	179	2.1	1.9	1.2
B 4	040	Typhoid fever.....	18	11	7	0.1	0.1	1
B 5	043	Cholera.....	—	—	—	—	—	—
B 6	045-048	Dysentery, all forms.....	50	32	27	0.3	0.2	0.2
B 7	050, 051	Scarlet fever and streptococcal sore throat.....	41	42	31	0.3	0.3	0.2
B 8	055	Diphtheria.....	26	15	18	0.2	0.1	0.1
B 9	056	Whooping cough.....	142	134	96	1.0	0.9	0.6
B10	057	Meningococcal infections.....	87	99	102	0.6	0.7	0.7
B11	058	Plague.....	—	—	—	—	—	—
B12	080	Acute poliomyelitis.....	311	481	157	2.2	3.3	1.0
B13	084	Smallpox.....	—	—	—	—	—	—
B14	085	Measles.....	236	140	118	1.6	0.9	0.8
B15	100-108	Typhus and other rickettsial diseases.....	2	1	—	1	1	—
B16	110-117	Malaria.....	3	—	—	1	—	—
B17	030-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-096, 120-138	All other diseases classified as infective and parasitic.....	336	367	393	2.3	2.5	2.6
B18	140-205	Cancer diseases.....	18,589	19,120	19,694	129.0	129.6	129.8
		Malignant neoplasms, including neoplasms of lymphatic and hæmatopoietic tissues.....	17,710	18,151	18,719	128.9	123.0	123.3
		Hodgkin's disease.....	215	192	208	1.5	1.3	1.4
		Leukæmia and aleukæmia.....	664	777	767	4.6	5.3	5.1
B19	210-239	Benign and unspecified neoplasms.....	373	366	366	2.6	2.5	2.4
B20	260	Diabetes mellitus.....	1,577	1,619	1,607	10.9	11.0	10.6
B21	290-293	Anæmias.....	404	385	323	2.8	2.6	2.1
B22	330-334	Vascular lesions affecting central nervous system.....	13,348	14,107	13,732	92.7	95.6	90.5
B23	340	Non-meningococcal meningitis.....	266	280	273	1.8	1.9	1.8
B24	400-402	Rheumatic fever.....	288	254	202	2.0	1.7	1.3
B25	410-416	Chronic rheumatic heart disease.....	1,603	1,592	1,584	11.1	10.8	10.4
B26	420-422	Arteriosclerotic and degenerative heart disease.....	32,410	33,274	33,810	225.0	225.5	222.9
B27	430-434	Other diseases of heart.....	1,873	1,994	1,860	13.0	13.5	12.3
B28	440-443	Hypertension with heart disease.....	4,737	4,445	4,043	32.9	30.1	26.7
B29	444-447	Hypertension without mention of heart.....	1,033	1,068	972	7.2	7.2	6.4
B30	480-483	Influenza.....	864	1,176	518	6.0	8.0	3.4
B31	490-493	Pneumonia.....	4,389	4,605	4,391	30.5	31.2	28.9
B32	500-502	Bronchitis.....	506	541	551	3.5	3.7	3.6
B33	540, 541	Ulcer of stomach and duodenum.....	712	753	749	4.9	5.1	4.9
B34	550-553	Appendicitis.....	248	224	211	1.7	1.5	1.4
B35	560, 561, 570	Intestinal obstruction and hernia.....	789	775	804	5.5	5.3	5.3
B36	543, 571, 572	Gastritis, duodenitis, enteritis and colitis except diarrhoea of the newborn.....	1,337	1,219	982	9.3	8.3	6.5
B37	581	Cirrhosis of liver.....	652	726	742	4.5	4.9	4.9
B38	590-594	Nephritis and nephrosis.....	2,791	2,616	2,333	19.4	17.7	15.4
B39	610	Hyperplasia of prostate.....	719	596	635	5.0	4.0	4.2
B40	640-652, 660, 670-689	Complications of pregnancy, childbirth and the puerperium.....	374	324	312	2.6	2.2	2.1
B41	750-759	Congenital malformations.....	2,623	2,586	2,580	18.2	17.5	17.0
B42	760-762	Birth injuries, postnatal asphyxia and atelectasis.....	2,846	2,736	2,893	19.8	18.5	19.0
B43	763-768	Infections of the newborn.....	753	774	626	5.2	5.2	4.1
B44	769-776	Other diseases peculiar to early infancy and immaturity (unqualified).....	4,120	3,975	3,601	28.6	26.9	23.7

1 Less than 0.1 per 100,000 population.

13.—Deaths and Rates per 100,000 Population according to the International Abbreviated List of 50 Causes 1952-54—concluded

International List No.		Cause of Death	Number of Deaths			Rates per 100,000 Population		
Abbreviated List	Detailed List		1952	1953	1954	1952	1953	1954
B45	780-795	Senility without mention of psychosis, ill-defined and unknown causes.....	2,127	1,881	1,880	14.8	12.7	12.4
B46	Residual	All other diseases.....	9,849	10,085	9,899	68.4	68.3	65.3
BE47	E810-E835	Motor vehicle accidents.....	2,947	3,121	2,867	20.5	21.2	18.9
BE48	E800-E802 E840-E862	All other accidents.....	5,594	5,521	5,513	38.8	37.4	36.3
BE49	E963, E970-E979	Suicide and self-inflicted injury.....	1,050	1,052	1,102	7.3	7.1	7.3
BE50	E964, E965 E980-E999	Homicide and operations of war....	153	176	175	1.1	1.2	1.2
Totals, All Causes.....			125,950	127,381	124,520	874.3	863.2	820.9

Subsection 2.—Infant Mortality

Table 1, pp. 199-201, shows the striking improvement that has taken place in the rate of infant mortality during the past 34 years. Of the 1,254,000 children born in 1952-54, although approximately 44,000 died, over 72,000 lived to their first birthday who would have died at the rate prevailing in the period 1926-30.

As illustrated in Table 14 mortality among male infants is 25 to 30 p.c. higher than that among females for Canada as a whole, with wider variations for the individual provinces. As pointed out earlier there were in the 1941-54 period between 1,052 and 1,067 males born to every 1,000 females born, but because male infant mortality is higher the excess of males is reduced drastically by the end of the first year. For example in 1952-54 644,983 male children were born compared with 609,511 female children, an excess of 35,472 or 5.8 p.c.; 25,251 male children died during their first year compared with 18,657 female children, that is, 6,594 more. The excess of males at one year of age was thus reduced to 28,878 or 4.9 p.c.

As indicated in Tables 1 and 14 infant mortality rates vary considerably from province to province. One of the principal causes of these variations appears to be the different proportions of births that take place in hospital or under proper medical care (*see also* p. 205). Along with increased hospitalization has come better and more widespread prenatal and postnatal care. Other factors have also been important particularly the supervision of water supplies, improved sanitation, the pasteurization of milk and the use of antibiotics.

14.—Distribution of Infant Deaths by Sex and Province 1921-54

Province and Year		Males	Females	Rate per 1,000 Male Live Births	Rate per 1,000 Female Live Births	Province and Year		Males	Females	Rate per 1,000 Male Live Births	Rate per 1,000 Female Live Births
		No.	No.					No.	No.		
Newfoundland.....	1950	408	350	60	55	P. E. Island.....	1921	95	85	89	78
	1951	361	276	60	48		1931	78	50	78	57
	1952	318	254	49	42		1941	102	61	95	63
	1953	348	248	53	40		1951	60	30	44	23
	1954	335	226	48	34		1952	48	35	34	27

14.—Distribution of Infant Deaths by Sex and Province 1921-51—concluded

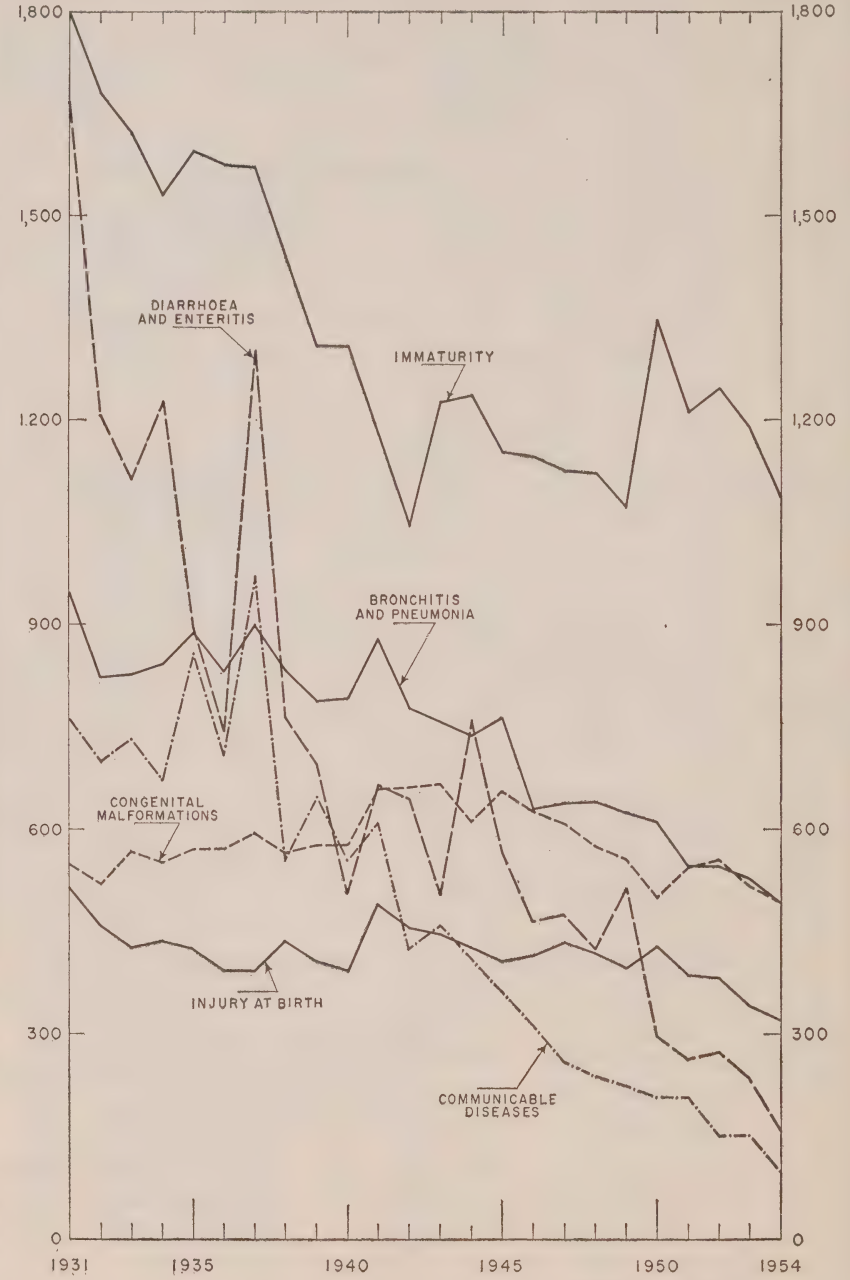
Province and Year		Males	Fe- males	Rate per 1,000 Male Live Births	Rate per 1,000 Female Live Births	Province and Year		Males	Fe- males	Rate per 1,000 Male Live Births	Rate per 1,000 Female Live Births	
		No.	No.					No.	No.			
P. E. Island— concl.	1953	43	34	31	25	Manitoba—concl.	1951	369	289	36	30	
	1954	55	40	39	30		1952	364	283	34	28	
Nova Scotia.....	1921	738	573	110	91		1953	424	317	39	30	
	1931	510	404	86	71		1954	385	250	34	23	
	1941	545	363	77	53	Saskatchewan.....	1921	1,048	766	90	70	
	1951	344	250	39	30		1931	851	612	78	59	
	1952	365	250	39	29		1941	531	415	56	46	
	1953	350	235	37	26		1951	353	323	32	30	
	1954	340	228	35	25		1952	431	356	37	33	
	New Brunswick....	1921	740	559	125		101	1953	448	349	37	30
		1931	565	379	102		72	1954	432	276	33	23
		1941	515	421	83		69	Alberta.....	1921	808	583	95	72
1951	472	363	58	46	1931	675	522		76	63		
1952	433	296	51	36	1941	506	373		57	44		
1953	408	326	48	41	1951	531	358		39	27		
1954	376	288	44	36	1952	515	364		34	26		
Quebec.....	1931	5,417	4,026	126	99	1953	520		410	32	27	
	1941	3,916	2,854	85	66	1954	510		372	29	23	
	1951	3,335	2,486	54	42	British Columbia...	1921		343	259	62	51
	1952	3,664	2,668	56	44		1931	292	222	55	44	
	1953	3,347	2,402	51	38		1941	316	236	41	32	
1954	3,032	2,329	44	36	1951		487	352	34	26		
Ontario.....	1921	3,918	2,845	102	79		1952	480	390	31	27	
	1931	2,744	2,089	77	62	1953	508	351	31	23		
	1941	1,910	1,384	51	40	1954	485	365	29	23		
	1951	2,010	1,535	34	28	Canada (exclusive of the Territories)	1921 ¹	8,558	6,335	98	77	
	1952	2,169	1,620	34	27		1931	11,667	8,693	94	74	
	1953	2,099	1,597	32	25		1941	8,788	6,448	67	52	
	1954	2,019	1,498	29	23		1951	8,322	6,262	43	34	
	Manitoba.....	1921	868	665	92		74	1952	8,787	6,516	42	33
1931		535	389	74	55	1953	8,495	6,269	40	31		
1941		447	341	59	47	1954	7,969	5,872	36	28		

¹ Excludes the Province of Quebec.

LEADING CAUSES OF INFANT DEATHS

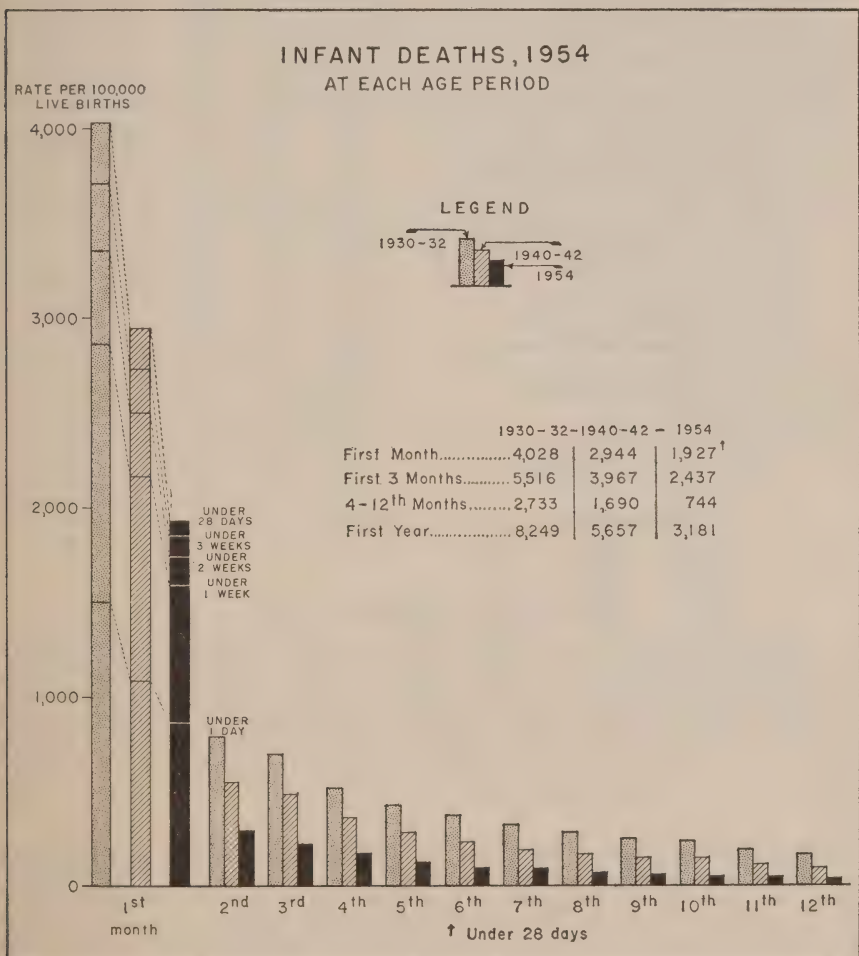
RATE PER 100,000
LIVE BIRTHS

RATE PER 100,000
LIVE BIRTHS



Infant Mortality in Urban Centres.—Because of the relatively small numbers of infant deaths in individual cities and towns the rates for these centres usually vary widely from year to year. As is evident from Table 2, pp. 202-203, many cities and towns have maintained consistently low rates as compared with the national rate or the rate for the province in which they are situated.

Causes of Infant Deaths.—There were 14,764 infant deaths in 1953 and 13,841 in 1954. Of the 1954 deaths congenital malformations accounted for 2,137, immaturity 2,062, pneumonia among infants over four weeks of age 1,577, postnatal asphyxia and atelectasis 1,507 and injury at birth 1,386—or over 62 p.c. of the total. The Chart opposite shows the relative importance of the major causes of infant deaths from 1931-54, and the Chart following shows the comparative numbers of children dying at each month of age during the first year of life. Table 15 gives the causes of infant deaths for the years 1952-54.



15.—Infant Mortality and Rates per 100,000 Live Births by Cause 1952-54

(Exclusive of Yukon and the Northwest Territories)

Inter- national List No.	Cause of Death	Number of Deaths			Rates per 100,000 Live Births		
		1952	1953	1954	1952	1953	1954
001-019	Tuberculosis.....	41	55	42	10	13	10
020-029	Syphilis.....	7	2	6	2	1	1
045-048	Dysentery.....	24	20	12	6	5	3
050	Scarlet fever.....	2	3	2	1	1	1
052	Erysipelas.....	—	4	1	—	1	1
055	Diphtheria.....	1	—	1	1	—	1
056	Whooping cough.....	104	97	75	26	23	17
057	Meningococcal infections.....	40	46	50	10	11	11
085	Measles.....	73	43	56	18	10	13
140-239	Neoplasms.....	47	40	35	12	10	8
273	Diseases of thymus gland.....	65	53	37	16	13	9
325	Mental deficiency.....	17	37	24	4	9	6
340	Meningitis (non-meningococcal).....	145	142	138	36	34	32
391, 392	Otitis media.....	251	201	200	62	48	46
470-475	Acute upper respiratory infections.....	73	77	77	18	18	18
480-483	Influenza.....	316	348	172	79	83	40
490-493	Pneumonia (4 weeks and over).....	1,604	1,871	1,577	398	377	362
500-502	Bronchitis.....	102	115	123	25	28	28
543	Gastritis and duodenitis.....	11	10	5	3	2	1
560-570	Hernia and intestinal obstruction.....	103	98	86	27	24	20
571	Gastro-enteritis and colitis.....	877	762	542	218	183	125
572	Chronic enteritis, and ulcerative colitis.....	3	2	7	1	1	2
750-759	Congenital malformations.....	2,226	2,161	2,137	553	518	491
760, 761	Injury at birth.....	1,532	1,420	1,386	381	341	319
762	Post-natal asphyxia and atelectasis.....	1,314	1,316	1,507	326	316	346
763	Pneumonia of newborn (under 4 weeks).....	483	516	438	120	124	101
764	Diarrhoea of newborn (under 4 weeks).....	214	211	137	53	51	31
765-768	Other infections of the newborn.....	56	47	51	14	11	12
769	Antenatal toxemia.....	171	181	146	42	43	34
770	Erythroblastosis.....	366	339	365	91	81	84
771	Hæmorrhagic disease of newborn.....	130	149	136	32	36	31
772	Nutritional maladjustment.....	161	130	112	40	31	26
773	Ill-defined diseases peculiar to early infancy.....	1,125	930	777	279	223	179
774-776	Immaturity.....	2,164	2,243	2,062	538	538	474
795	Ill-defined and unknown causes.....	275	230	192	68	55	44
E810-E825	Motor vehicle traffic accidents.....	19	14	12	5	3	3
E900-E904	Accidental falls.....	10	11	14	2	3	6
E916	Accidents caused by fire.....	30	30	25	7	7	6
E921, E922	Inhalation and ingestion of food or other object.....	235	215	248	58	52	57
E924, E925	Accidental mechanical suffocation.....	131	136	128	33	33	29
	Other accidental and violent deaths.....	64	62	56	16	15	13
	Other specified causes.....	687	697	644	171	167	145
Totals, All Causes.....		15,303	14,764	13,841	3,802	3,542	3,181

¹ Less than one per 100,000 live births.

Subsection 3.—Maternal Mortality

As indicated in Table 1, pp. 199-201, the number of mothers who die in pregnancy and childbirth has been greatly reduced during the past two decades. Although the number of births has been much greater in recent years, the number of maternal deaths has declined steadily since about 1930 (when there were 1,215 deaths and a rate of almost five deaths for every 1,000 live births) to 290 in 1954. Since 1945 the rate of maternal mortality has dropped below two per 1,000 live births and was under one per 1,000 live births in 1954. Mortality among unmarried mothers is higher than among married mothers.

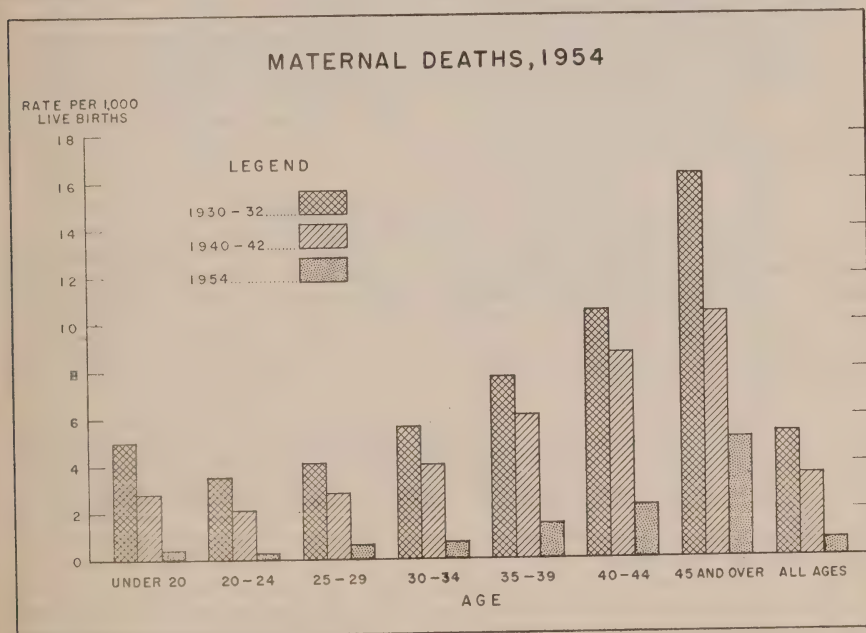
Age at Death.—Table 16 shows the distribution of maternal deaths by age groups and average age at death. The latter is slightly more than two years higher than the average age of all mothers at the time of childbirth. The rates per 1,000 live births by age groups show that age is a most important factor in maternal mortality. Though all the rates are much lower than they used to be, the inequalities between the age groups remain (see Chart, "Maternal Deaths," opposite). The rate at ages 30-34 is more than

twice as high as the rate at 20-24 years, and at 40-44 years it is over seven times as high. The higher rate for the "under 20" age group, compared with the age group 20-24, is owing to the high proportion of illegitimate children born to young mothers in the "under 20" group.

16.—Maternal Mortality and Rates per 1,000 Live Births by Age Group 1941, 1953 and 1954

(Exclusive of Newfoundland, Yukon and the Northwest Territories)

Age Group	Maternal Deaths						Rates per 1,000 Live Births		
	1941		1953		1954		1941	1953	1954
	No.	p.c.	No.	p.c.	No.	p.c.			
Under 20 years.....	47	5.2	7	2.3	11	3.8	2.77	0.26	0.38
20 — 24 ".....	160	17.8	34	11.1	37	12.8	2.26	0.30	0.32
25 — 29 ".....	217	24.1	73	23.9	68	23.4	2.85	0.61	0.55
30 — 34 ".....	203	22.5	60	19.7	66	22.8	4.05	0.71	0.74
35 — 39 ".....	184	20.4	82	26.9	69	23.8	6.37	1.83	1.49
40 — 44 ".....	82	9.1	43	14.1	33	11.4	7.97	3.10	2.21
45 — 49 ".....	7	0.8	—	—	6	2.1	6.57	5.91	5.09
50 years or over.....	1	0.1	—	—	—	—	—	—	—
Totals, All Ages.....	901	100.0	305	100.0	290	100.0	3.53	0.75	0.69
Average age at death.....	30.9		32.9		32.2		...	...	...



Causes of Maternal Deaths.—Table 17 shows maternal deaths by causes, numbers and rates per 100,000 live births. Until a decade ago puerperal sepsis and toxæmias of pregnancy were by far the most important causes. Since 1936 the rate for puerperal sepsis has been reduced by almost 95 p.c. owing in large measure to the use of sulpha and other antibiotics. Although there has been a reduction of over 70 p.c. since 1936 in the maternal death rate from toxæmias of pregnancy this group still remains a major cause of maternal deaths, second only to complications of delivery.

17.—Maternal Mortality and Rates per 100,000 Live Births by Cause 1951-54

(Exclusive of the Territories)

International List No.	Cause of Death	Number of Deaths				Rate per 100,000 Live Births			
		1951	1952	1953	1954	1951	1952	1953	1954
640, 641	Infections of the genito-urinary tract during pregnancy.....	1	3	2	1	1	1	1	1
642	Toxæmias of pregnancy.....	111	97	85	77	29	24	20	18
643	Placenta prævia noted before delivery.....	4	3	7	2	1	1	2	1
644	Other hæmorrhage of pregnancy.....	3	4	4	6	1	1	1	1
645	Ectopic pregnancy.....	13	13	10	11	3	3	2	3
646-649	Other complications of pregnancy.....	16	13	7	11	4	3	2	3
650, 652	Abortion without mention of sepsis.....	22	13	14	17	6	3	3	4
651	Abortion with sepsis.....	29	30	23	24	8	7	6	6
660	Delivery without complication.....	6	9	5	8	2	2	1	2
670	Delivery complicated by placenta prævia or antepartum hæmorrhage.....	43	34	30	24	11	8	7	6
671	Delivery complicated by retained placenta.....	6	10	11	8	2	2	3	2
672	Delivery complicated by other postpartum hæmorrhage.....	38	23	28	32	10	6	7	7
673, 674	Delivery complicated by abnormality of bony pelvis or malposition of fœtus.....	13	12	4	11	3	3	1	3
675	Delivery complicated by prolonged labour of other origin.....	14	12	10	6	4	3	2	1
676, 677	Delivery with laceration or other trauma.....	15	16	13	18	4	4	3	4
678	Delivery with other complications of childbirth.....	13	15	18	15	3	4	4	3
680	Puerperal urinary infection without other sepsis.....	1	—	—	—	1	—	—	—
681	Sepsis of childbirth and the puerperium.....	13	10	17	8	3	2	4	2
682-684	Puerperal phlebitis, thrombosis, pyrexia, pulmonary embolism.....	25	28	25	21	7	7	6	5
685, 686	Puerperal eclampsia and toxæmia.....	9	12	7	6	2	3	2	1
687-689	Other and unspecified complications of the puerperium.....	10	17	4	6	3	4	1	1
Totals, All Puerperal Causes.....		405	374	324	312	107	93	78	72

¹ Less than one per 100,000 live births.

Section 4.—Natural Increase*

In 1926-30 the rate of natural increase in Canada (excess of births over deaths) was 13 per 1,000 population. Owing partly to the depression the birth rate declined more than the death rate and the rate of natural increase fell to 9.7 in 1937. Since then the rate increased steadily from 12.6 in 1940-42 to 19.3 in 1947. The rates of 17.8 in 1948, 18.1 in 1949, 18.1 in 1950, 18.2 in 1951 and 19.2 in 1952 were lower owing to increases in total deaths in recent years. The 1947 rate however was exceeded in 1953 with a rate of 19.6 and in 1954 with 20.5.

Table 18 shows that the rates of natural increase in the provinces followed generally the rate for Canada as a whole. In earlier years Saskatchewan and Quebec had the highest rates. The high rates in all the Prairie Provinces were owing partly to their relatively younger populations and consequent low death rates. In Quebec the death rate in 1926-30 was high but it has declined steadily since. Owing to high birth rates Newfoundland and New Brunswick have had the highest rates of natural increase in Canada in recent years. (See Chart on opposite page.)

The rates of natural increase are generally higher for females than for males because death rates for males are higher than for females. In the western provinces particularly the ratio of males to females in the total population is higher than in other parts of Canada and this tends to lower the rate of natural increase.

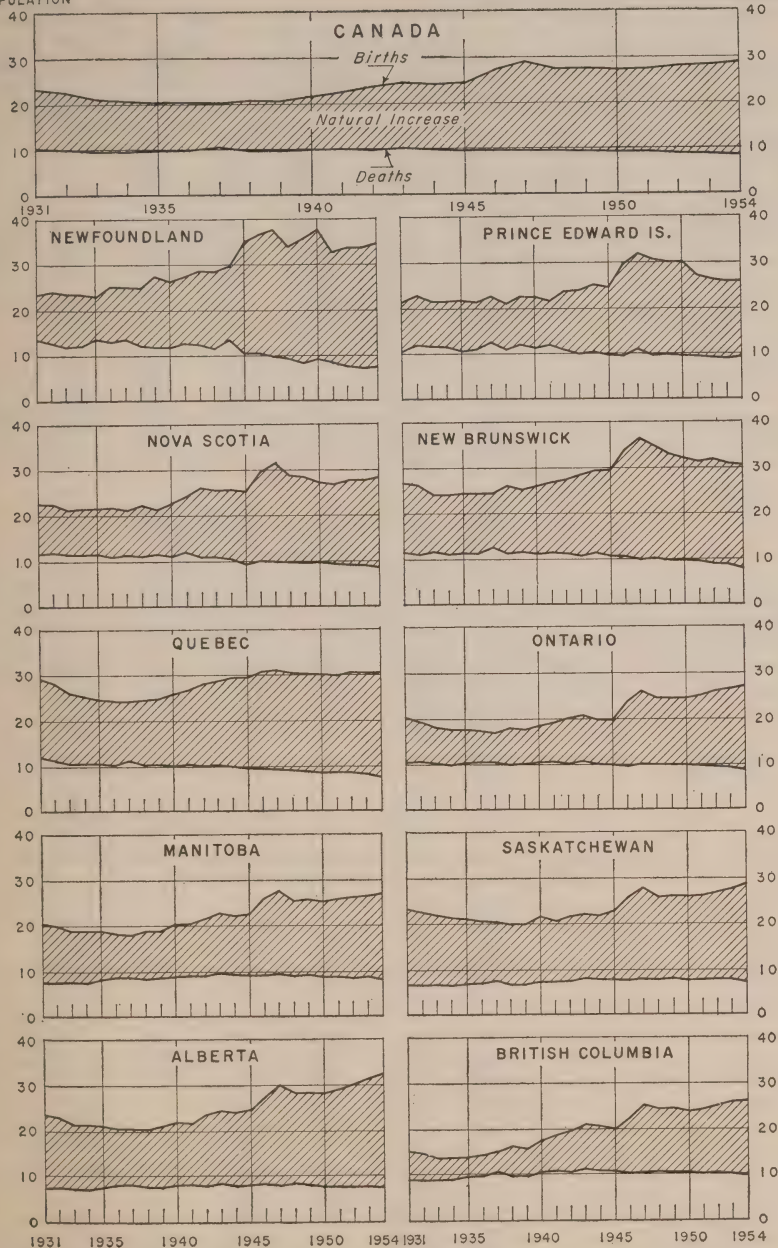
In Canada, a country with a fairly young population and where immigration has been on a large scale, an excess of males is to be expected but the higher rate of natural increase for females may gradually reduce this excess. The trend is towards an eventual excess of females in the total population—as there now is in most European countries—unless immigration again raises the male ratio.

* For international comparisons, see Section 8, pp. 234-35.

BIRTH, DEATH AND NATURAL INCREASE RATES

RATE PER 1,000
POPULATION

RATE PER 1,000
POPULATION



18.—Natural Increase and Rates per 1,000 Population by Sex and Province 1921-54

Province and Year	Excess of Births Over Deaths	Rate per 1,000 Popu- lation	Males		Females	
			Number	Rate per 1,000 Males	Number	Rate per 1,000 Females
Newfoundland.....1951	8,734	24.2	4,369	23.6	4,365	24.8
.....1952	9,788	26.2	4,942	25.7	4,846	26.7
.....1953	10,064	26.3	4,990	25.4	5,074	27.3
.....1954	10,737	27.0	5,330	26.0	5,407	28.0
Prince Edward Island.....1921	947	10.7	454	10.1	493	11.3
.....1931	967	10.9	517	11.4	450	10.6
.....1941	915	9.6	483	9.8	432	9.4
.....1951	1,747	17.9	872	17.4	875	18.2
.....1952	1,787	17.3	902	17.2	885	17.5
.....1953	1,811	17.1	853	15.8	958	18.4
.....1954	1,758	16.7	874	16.4	884	17.1
Nova Scotia.....1921	6,601	12.6	3,323	12.5	3,278	12.7
.....1931	5,647	11.0	2,836	10.8	2,811	11.3
.....1941	6,989	12.1	3,335	11.3	3,654	13.0
.....1951	11,313	17.6	5,596	17.2	5,717	18.0
.....1952	12,195	18.7	6,022	18.2	6,173	19.1
.....1953	12,468	18.8	6,146	18.3	6,322	19.4
.....1954	13,217	19.6	6,490	18.9	6,727	20.4
New Brunswick.....1921	6,055	15.9	3,084	16.0	2,971	15.9
.....1931	6,157	15.1	3,099	14.9	3,058	15.3
.....1941	7,088	15.5	3,396	14.5	3,692	16.5
.....1951	11,202	21.8	5,522	21.3	5,680	22.1
.....1952	12,044	22.9	5,768	21.8	6,276	24.0
.....1953	11,821	22.0	5,966	22.1	5,855	22.0
.....1954	12,363	22.6	6,140	22.4	6,223	22.8
Quebec.....1921	55,316	23.4	29,431	24.9	25,885	21.9
.....1931	49,119	17.1	24,984	17.3	24,135	16.9
.....1941	54,871	16.5	27,561	16.5	27,310	16.5
.....1951	86,030	21.2	42,961	21.2	43,069	21.2
.....1952	91,562	21.9	45,555	21.8	46,007	22.0
.....1953	94,250	22.1	46,636	21.8	47,614	22.3
.....1954	100,009	22.8	49,865	22.7	50,144	22.9
Ontario.....1921	39,601	13.5	20,245	13.7	19,356	13.3
.....1931	33,504	9.8	16,472	9.4	17,032	10.1
.....1941	33,036	8.7	15,705	8.2	17,331	9.3
.....1951	70,846	15.4	34,737	15.0	36,109	15.8
.....1952	79,489	16.7	38,914	16.2	40,575	17.2
.....1953	84,529	17.3	41,167	16.7	43,362	17.9
.....1954	91,746	18.2	44,736	17.6	47,010	18.8
Manitoba.....1921	13,090	21.5	6,491	20.2	6,599	22.8
.....1931	9,057	12.9	4,239	11.5	4,818	14.5
.....1941	8,317	11.4	3,834	10.1	4,483	12.7
.....1951	13,207	17.0	6,388	16.2	6,819	17.9
.....1952	14,225	17.8	6,713	16.5	7,512	19.1
.....1953	14,227	17.6	6,576	16.0	7,651	19.2
.....1954	15,529	18.8	7,266	17.3	8,263	20.3
Saskatchewan.....1921	16,897	22.3	8,542	20.6	8,355	24.3
.....1931	15,265	16.5	7,499	15.0	7,766	18.4
.....1941	12,006	13.4	5,651	11.8	6,355	15.2
.....1951	15,293	18.4	7,192	16.6	8,101	20.4
.....1952	15,980	18.9	7,559	17.2	8,421	20.9
.....1953	17,016	19.7	8,012	17.9	9,004	21.8
.....1954	18,658	21.3	8,913	19.5	9,745	23.2
Alberta.....1921	11,621	19.7	5,635	17.4	5,986	22.6
.....1931	11,950	16.4	5,843	14.6	6,107	18.4
.....1941	10,923	13.7	5,016	11.8	5,907	16.0
.....1951	19,836	21.1	9,331	19.0	10,505	23.5
.....1952	21,760	22.4	10,408	20.5	11,352	24.6
.....1953	23,730	23.7	11,383	21.7	12,347	25.8
.....1954	26,073	25.1	12,616	23.3	13,457	27.1

18.—Natural Increase and Rates per 1,000 Population by Sex and Province 1921-54—concluded

Province and Year	Excess of Births Over Deaths	Rate per 1,000 Popu- lation	Males		Females		
			Number	Rate per 1,000 Males	Number	Rate per 1,000 Females	
British Columbia.....	1921	6,445	12.3	2,949	10.1	3,496	15.1
	1931	4,290	6.2	1,604	4.2	2,686	8.7
	1941	6,533	8.0	2,342	5.4	4,191	10.9
	1951	16,439	14.1	7,107	11.9	9,332	16.4
	1952	17,747	14.8	7,971	13.0	9,776	21.2
	1953	19,528	15.9	8,750	13.9	10,778	17.9
	1954	20,532	16.2	9,243	14.3	11,289	18.2
Canada (exclusive of the Territories).....	1921	156,573	17.8	80,154	17.7	76,419	18.0
	1931	135,956	13.1	67,093	12.5	68,863	13.8
	1941	140,678	12.2	67,323	11.4	73,355	13.1
	1951	254,647	18.2	124,075	17.5	130,572	18.9
	1952	276,577	19.2	134,754	18.5	141,823	20.0
	1953	289,444	19.6	140,479	18.8	148,965	20.5
	1954	310,622	20.5	151,473	19.7	159,149	21.3

Natural Increase in Urban Centres.—The classification of births and deaths by place of residence makes it possible to compile the natural increase in the population of urban centres; the figures are presented in Table 2, pp. 202-203.

Section 5.—Marriages and Divorces*

Subsection 1.—Marriages

Table 19 shows the number of marriages and the marriage rates per 1,000 population in Canada and the provinces, and percentages of brides and bridegrooms, according to place of birth. For the country as a whole in 1954, 83 p.c. of the grooms were born in Canada—nearly 68 p.c. in the province in which they were married. Over 87 p.c. of the brides were born in Canada—nearly 75 p.c. in the province in which they were married. However there are wide variations from this pattern as between provinces; as might be expected, in the older Atlantic Provinces and Quebec there is a greater tendency than in the other provinces to marry native Canadians, both partners often being born in the same province.

* For international comparisons, see Section 8, pp. 234-35.

19.—Marriages and Marriage Rates by Province with Percentage Distribution of Bridegrooms and Brides by Nativity 1921-54

Province and Year	Total Marriages	Rate per 1,000 Population	Born in Province Where Married		Born in Other Provinces		Born Outside Canada		
			Grooms	Brides	Grooms	Brides	Grooms	Brides	
			No.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Newfoundland.....	1951	2,517	7.0	85.2 ¹	96.7 ¹	2.4 ¹	1.9 ¹	12.4 ¹	1.4 ¹
	1952	2,730	7.3	87.5 ¹	97.0 ¹	2.1 ¹	1.0 ¹	10.3 ¹	2.1 ¹
	1953	2,771	7.2	86.5 ¹	96.4 ¹	2.5 ¹	1.5 ¹	11.1 ¹	2.1 ¹
	1954	2,952	7.4	85.1 ¹	96.0 ¹	3.3 ¹	1.6 ¹	11.5 ¹	2.4 ¹
Prince Edward Island.....	1921	518	5.8	92.3	94.6	5.0	1.9	2.7	3.5
	1931	490	5.6	89.4	91.8	5.1	4.1	5.5	4.1
	1941	673	7.1	78.8	86.6	15.0	9.4	6.2	4.0
	1951	583	5.9	82.3	91.1	12.9	6.0	4.8	2.9
	1952	613	6.0	81.4	91.5	13.9	5.4	4.7	3.1
	1953	647	6.1	80.4	91.8	15.3	6.0	4.3	2.2
	1954	605	5.8	79.2	90.7	16.7	6.8	4.1	2.5

For footnotes, see end of table.

**19.—Marriages and Marriage Rates by Province with Percentage Distribution of
Bridegrooms and Brides by Nativity 1921-54—concluded**

Province and Year	Total Marriages	Rate per 1,000 Popu- lation	Born in Province Where Married		Born in Other Provinces		Born Outside Canada		
			Grooms	Brides	Grooms	Brides	Grooms	Brides	
			No.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Nova Scotia.....	1921	3,550	6.8	76.3	81.3	6.4	4.5	17.3	14.2
	1931	3,394	6.6	80.3	86.7	5.4	3.6	14.3	9.7
	1941	6,596	11.4	73.2	83.8	16.8	9.5	10.0	6.7
	1951	5,094	7.9	78.2	86.7	15.9	9.0	6.0	4.3
	1952	5,390	8.3	77.2	86.3	16.5	10.0	6.3	3.7
	1953	5,378	8.1	75.8	86.6	13.7	9.6	5.5	3.7
	1954	5,265	7.8	73.9	86.5	20.1	9.7	5.9	3.8
New Brunswick.....	1921	3,173	8.4	73.4	78.0	10.1	8.4	16.5	13.6
	1931	2,544	6.2	77.7	81.8	10.1	9.2	12.2	9.0
	1941	4,941	10.8	78.5	84.4	13.3	9.7	8.2	5.9
	1951	4,386	8.5	80.0	86.9	10.1	6.7	9.8	6.4
	1952	4,276	8.1	78.7	85.2	10.7	7.5	10.6	7.3
	1953	4,232	7.9	74.8	85.3	12.6	7.2	12.6	7.5
	1954	4,278	7.8	76.8	85.4	11.8	7.2	11.4	7.4
Quebec.....	1931	16,783	5.8	79.7	83.4	4.2	3.7	16.0	13.0
	1941	32,782	9.8	86.1	89.3	6.7	5.9	7.2	4.8
	1951	35,704	8.8	86.7	89.5	6.1	5.5	7.2	5.0
	1952	35,374	8.5	84.9	87.9	6.1	5.6	9.1	6.4
	1953	35,968	8.4	85.6	89.0	5.6	5.0	8.8	5.9
	1954	35,516	8.1	85.4	89.6	5.9	4.4	8.7	6.0
Ontario.....	1921	24,871	8.5	63.6	66.7	5.6	4.7	30.8	28.6
	1931	23,771	6.9	57.4	63.4	7.7	7.7	34.9	28.8
	1941	43,270	11.4	59.2	89.0	4.2	4.5	6.7	6.5
	1951	45,198	9.8	65.9	72.4	14.6	12.2	19.5	15.4
	1952	45,251	9.5	63.6	70.0	14.4	12.2	22.0	17.8
	1953	45,954	9.4	63.0	69.5	14.1	11.9	22.9	18.6
	1954	45,028	8.9	61.8	68.2	14.1	12.0	24.1	19.8
Manitoba.....	1921	5,310	8.7	26.4	37.2	18.1	14.1	55.5	48.7
	1931	4,888	7.0	41.6	55.7	10.9	9.2	47.5	35.1
	1941	8,305	11.4	63.0	73.7	17.4	15.0	19.6	11.4
	1951	7,366	9.5	67.9	75.1	15.4	13.3	16.8	11.6
	1952	7,128	8.9	64.7	74.3	18.1	13.8	17.3	11.9
	1953	7,277	9.0	65.3	74.7	17.9	13.6	16.8	11.7
	1954	6,837	8.3	65.3	74.7	17.6	13.5	17.1	11.8
Saskatchewan.....	1921	5,101	6.7	7.1	15.6	31.4	28.1	61.5	56.3
	1931	5,700	6.2	27.6	48.3	22.5	16.9	49.9	34.7
	1941	7,036	7.9	64.7	79.1	16.1	10.0	19.1	10.9
	1951	6,895	8.2	78.3	86.4	10.7	6.4	11.1	7.2
	1952	6,944	8.2	77.6	87.4	12.0	5.9	10.4	6.6
	1953	7,186	8.3	76.9	87.1	12.6	6.0	10.4	6.8
	1954	6,953	7.9	76.9	87.3	12.8	6.0	10.3	6.7
Alberta.....	1921	4,661	7.9	7.0	14.2	26.2	25.1	66.8	60.7
	1931	5,142	7.0	22.1	38.5	19.4	17.6	58.5	43.9
	1941	8,470	10.6	50.0	63.4	23.9	19.9	26.2	16.8
	1951	9,305	9.9	56.0	67.4	25.7	19.6	18.3	13.0
	1952	9,514	9.8	53.4	65.2	26.0	19.8	20.5	15.0
	1953	10,126	10.1	53.2	63.9	26.0	20.7	20.7	15.4
	1954	9,960	9.6	53.3	63.6	25.4	19.6	21.4	16.8
British Columbia.....	1921	3,889	7.4	13.7	18.3	22.6	20.5	63.7	61.2
	1931	3,879	5.6	22.2	30.6	21.1	24.7	56.7	44.7
	1941	9,769	11.9	35.9	43.5	35.6	37.1	28.5	19.4
	1951	11,272	9.7	35.5	41.6	43.1	43.0	21.3	15.5
	1952	11,081	9.2	34.9	40.0	41.6	42.4	23.4	17.5
	1953	11,298	9.2	34.3	41.4	41.1	40.6	24.6	18.0
	1954	10,991	8.7	33.7	41.5	42.0	40.2	24.3	18.3
Canada (exclusive of the Yukon and Northwest Territories).	1921 ²	51,073	8.0	46.9	52.0	13.0	11.3	40.1	36.7
	1931	66,591	6.4	56.7	64.9	10.0	9.2	33.3	26.0
	1941	121,842	10.6	76.8	81.5	11.4	10.1	11.7	8.4
	1951 ³	128,230	9.2	70.5 ¹	76.5 ¹	15.1 ¹	12.8 ¹	14.5 ¹	10.6 ¹
	1952	128,301	8.9	68.7 ¹	75.0 ¹	15.1 ¹	12.8 ¹	16.2 ¹	12.2 ¹
	1953	130,837	8.9	68.3 ¹	75.1 ¹	15.1 ¹	12.5 ¹	16.6 ¹	12.4 ¹
	1954	128,385	8.5	67.8 ¹	74.9 ¹	15.2 ¹	12.2 ¹	17.0 ¹	12.9 ¹

¹ Excludes "not stated" birthplace.
included from 1951.

² Excludes the Province of Quebec.

³ Newfoundland

Age and Marital Status of Bridegrooms and Brides.—Over 91 p.c. of the marriages in 1954 were between persons who had not previously been married; 5 p.c. of the brides and nearly 5 p.c. of the grooms had been widowed, and more than 3 p.c. of the marriages were of divorced persons. The average age at marriage of bachelors is just under 27 and that of spinsters just under 24 years. The average age of widowers and widows at the time of remarriage is double that of bachelors and spinsters. Over 90 p.c. of spinsters married in 1954 were under 30 years of age—75 p.c. under 25 years. Over 80 p.c. of bachelors were under 30 years with more than 50 p.c. of these less than 25 years of age. Table 20 gives the age pattern at marriage for bridegrooms and brides for the years 1953 and 1954.

20.—Numbers and Percentages of Bridegrooms and Brides by Age and Marital Status 1953 and 1954

(Exclusive of Yukon and the Northwest Territories)

Year and Age Group	BRIDEGROOMS							
	Numbers				Percentages			
	Bachelors	Widowers	Divorced	Total	Bachelors	Widowers	Divorced	Total
1953								
Under 20 years.....	6,761	—	—	6,761	5.6	—	—	5.2
20 — 24 ".....	57,152	37	163	57,352	47.8	0.6	3.4	43.8
25 — 29 ".....	34,414	178	741	35,333	28.8	2.8	15.6	27.0
30 — 34 ".....	11,793	342	1,040	13,175	9.9	5.3	21.9	10.1
35 — 39 ".....	4,642	452	920	6,014	3.9	7.1	19.4	4.6
40 — 44 ".....	2,317	564	778	3,659	1.9	8.8	16.4	2.8
45 — 49 ".....	1,218	691	514	2,423	1.0	10.8	10.8	1.9
50 — 54 ".....	712	803	296	1,811	0.6	12.5	6.2	1.4
55 — 59 ".....	353	882	163	1,398	0.3	13.8	3.4	1.1
60 — 64 ".....	173	826	79	1,078	0.1	12.9	1.7	0.8
65 years or over.....	144	1,636	48	1,828	0.1	25.5	1.0	1.4
Ages not stated.....	4	—	1	5	—	—	—	—
Totals, All Ages.....	119,683	6,411	4,743	130,837	91.5	4.9	3.6	100.0
Average ages.....	26.3	54.5	38.6	28.2	...	...	...	...
	BRIDES							
	Numbers				Percentages			
	Spinsters	Widows	Divorced	Total	Spinsters	Widows	Divorced	Total
Under 20 years.....	33,162	21	13	33,196	27.7	0.3	0.3	25.4
20 — 24 ".....	55,989	142	421	56,552	46.8	2.2	9.3	43.2
25 — 29 ".....	18,663	414	1,071	20,148	15.6	6.3	23.5	15.4
30 — 34 ".....	6,329	702	1,082	8,113	5.3	10.7	23.8	6.2
35 — 39 ".....	2,697	749	804	4,250	2.3	11.4	17.7	3.2
40 — 44 ".....	1,431	792	571	2,794	1.2	12.1	12.5	2.1
45 — 49 ".....	739	871	342	1,952	0.6	13.3	7.5	1.5
50 — 54 ".....	378	810	163	1,351	0.3	12.3	3.6	1.0
55 — 59 ".....	170	708	58	936	0.1	10.8	1.3	0.7
60 — 64 ".....	89	569	15	673	0.1	8.7	0.3	0.5
65 years or over.....	70	785	10	865	0.1	12.0	0.2	0.7
Ages not stated.....	5	2	—	7	—	—	—	—
Totals, All Ages.....	119,722	6,565	4,550	130,837	91.5	5.0	3.5	100.0
Average ages.....	23.7	47.9	34.8	25.3	...	...	...	...

20.—Numbers and Percentages of Bridegrooms and Brides by Age and Marital Status 1953 and 1954—concluded

Year and Age Group	BRIDEGROOMS							
	Numbers				Percentages			
	Bachelors	Widowers	Divorced	Total	Bachelors	Widowers	Divorced	Total
1954								
Under 20 years.....	6,846	—	—	6,846	5.8	—	—	5.3
20 — 24 “.....	56,469	33	159	56,661	48.1	0.5	3.4	44.1
25 — 29 “.....	33,639	164	786	34,589	28.6	2.6	16.7	26.9
30 — 34 “.....	11,586	321	1,056	12,963	9.9	5.2	22.5	10.1
35 — 39 “.....	4,217	452	866	5,535	3.6	7.3	18.4	4.3
40 — 44 “.....	2,182	574	745	3,501	1.9	9.3	15.9	2.7
45 — 49 “.....	1,187	660	530	2,377	1.0	10.6	11.3	1.9
50 — 54 “.....	685	765	298	1,748	0.6	12.3	6.3	1.4
55 — 59 “.....	331	832	147	1,310	0.3	13.4	3.1	1.0
60 — 64 “.....	171	810	73	1,054	0.1	13.1	1.6	0.8
65 years or over.....	170	1,593	35	1,798	0.1	25.7	0.7	1.4
Ages not stated.....	2	1	—	3	—	—	—	—
Totals, All Ages.....	117,485	6,205	4,695	128,385	91.5	4.8	3.7	100.0
Average ages.....	26.3	54.6	38.3	28.1	...	...	...	...
BRIDES								
	Numbers				Percentages			
	Spinsters	Widows	Divorced	Total	Spinsters	Widows	Divorced	Total
Under 20 years.....	33,691	16	11	33,718	28.7	0.2	0.2	26.3
20 — 24 “.....	54,337	157	476	54,970	46.3	2.4	10.3	42.8
25 — 29 “.....	17,888	392	1,137	19,417	15.2	6.1	24.7	15.1
30 — 34 “.....	6,145	631	1,058	7,834	5.2	9.8	23.0	6.1
35 — 39 “.....	2,520	753	761	4,034	2.1	11.7	16.5	3.1
40 — 44 “.....	1,325	814	593	2,732	1.1	12.6	12.9	2.1
45 — 49 “.....	734	842	340	1,916	0.6	13.1	7.4	1.5
50 — 54 “.....	379	821	146	1,346	0.3	12.7	3.2	1.0
55 — 59 “.....	156	705	55	916	0.1	10.9	1.2	0.7
60 — 64 “.....	87	577	20	684	0.1	8.9	0.4	0.5
65 years or over.....	64	742	7	813	0.1	11.5	0.2	0.6
Ages not stated.....	5	—	—	5	—	—	—	—
Totals, All Ages.....	117,331	6,450	4,604	128,385	91.4	5.0	3.6	100.0
Average ages.....	23.6	48.0	34.5	25.2	...	...	...	...

Religious Denominations of Brides and Bridegrooms.—The distribution of brides and bridegrooms by religious denominations is roughly the same as that for the population as a whole. Table 21 shows the very strong influence that religion has on marriage. About 71 p.c. of all marriages are between persons of the same religious denomination; in 1954 among those of Jewish faith it was over 93 p.c.; among Roman Catholics nearly 89 p.c.; United Church 61 p.c.; and Eastern Orthodox over 55 p.c.

21.—Marriages by Religious Denominations of Contracting Parties 1953 and 1954

(Exclusive of Yukon and the Northwest Territories)

Denomination of Bridegroom	Denomination of Bride										Total Mar- riages	P.C. of Grooms
	Church of Eng- land	Bap- tist	East- ern Orth- odox	Jew- ish	Luth- eran	Pres- byter- ian	Roman Cath- olic ¹	United Church	Other	Not Stated		
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	
1953												
Church of England..	8,358	579	113	7	416	872	1,860	3,764	555	2	16,526	12.6
Baptist.....	662	2,158	20	—	153	216	440	899	297	1	4,846	3.7
Eastern Orthodox..	112	27	1,089	2	77	27	390	175	60	—	1,959	1.5
Jewish.....	31	3	5	1,678	7	9	57	28	19	1	1,838	1.4
Lutheran.....	497	133	68	5	2,961	130	729	819	274	1	5,617	4.3
Presbyterian.....	1,023	241	42	6	136	2,120	675	1,401	172	—	5,816	4.4
Roman Catholic ¹ ..	1,738	332	312	25	825	504	53,233	2,002	734	4	59,709	45.6
United Church.....	3,542	863	169	10	705	1,096	2,134	15,575	827	3	24,924	19.0
Other.....	679	300	59	18	299	207	979	1,005	6,032	1	9,579	7.3
Not stated.....	5	1	—	—	2	—	5	3	3	4	23	...
Totals.....	16,647	4,637	1,877	1,751	5,581	5,181	60,592	25,671	8,973	17	130,837	100.0
P.C. of brides.....	12.7	3.5	1.4	1.3	4.3	4.0	46.2	19.6	6.9	—	100.0	71.2 ²
1954												
Church of England..	8,180	575	93	16	399	804	1,966	3,618	556	3	16,210	12.6
Baptist.....	612	2,028	20	3	144	174	435	841	270	2	4,529	3.5
Eastern Orthodox...	111	25	1,014	—	90	44	400	195	66	—	1,945	1.5
Jewish.....	34	5	7	1,680	7	8	62	37	17	—	1,857	1.4
Lutheran.....	491	129	73	2	2,984	168	794	824	267	1	5,733	4.5
Presbyterian.....	996	209	35	4	176	2,075	593	1,279	206	—	5,573	4.3
Roman Catholic ¹ ...	1,759	349	283	22	805	478	52,143	2,070	755	2	58,666	45.7
United Church.....	3,506	876	152	*16	691	1,085	2,156	15,025	776	3	24,286	18.9
Other.....	636	261	61	7	335	185	1,014	1,033	6,036	—	9,568	7.5
Not stated.....	5	—	—	1	1	1	3	2	2	3	18	...
Totals.....	16,330	4,457	1,738	1,751	5,632	5,022	59,566	24,924	8,951	14	128,385	100.0
P.C. of brides.....	12.7	3.5	1.4	1.4	4.4	3.9	46.4	19.4	7.0	...	100.0	71.0 ²

¹ Includes Greek Catholic denomination.

² Percentage of marriages between contracting parties of the same religious

Subsection 2.—Dissolutions of Marriage (Divorces)

For many years after Confederation the number of divorces granted in Canada was small. There were fewer than 20 divorces in every year before 1900, 21 in 1903, 51 in 1909 and 60 in 1913. These numbers represent less than one per 1,000 of the yearly number of marriages.

At the end of World War I in 1918 the number of divorces increased. The generally unsettled conditions and the long separation of men on Active Service from their wives may have contributed to this increase. Changes in law and procedure may also have been a further factor—at present, Quebec and Newfoundland are the only provinces in which applicants for divorce must secure a private Act of Parliament. The number of divorces increased from 11 in 1900 to a peak of 8,199 in 1947, declining gradually after that year until 1951 when they numbered 5,263. The numbers rose to 5,634 in 1952 and 6,110 in 1953 but declined to approximately 5,800 in 1954.

22.—Dissolutions of Marriage (Divorces) by Province 1900-54

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Northwest Territories	B.C.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1900.....	..	—	1	1	1	2	1	1	4	11
1901.....	..	—	10	—	—	2	—	—	7	19
1902.....	..	—	9	1	—	2	—	—	3	15
1903.....	..	—	8	4	1	2	1	1	4	21
1904.....	..	—	6	2	1	5	—	—	5	19
1905.....	..	—	6	2	3	2	2	2	18	35
								Sask.	Alta.	
1906.....	..	—	5	1	3	10	—	—	1	17
1907.....	..	—	8	3	1	3	1	—	—	9
1908.....	..	—	5	5	—	8	—	—	—	12
1909.....	..	—	8	5	4	8	2	1	1	22
1910.....	..	—	13	6	2	14	3	1	—	12
1911.....	..	—	10	6	4	13	3	—	2	19
1912.....	..	—	4	4	3	9	1	1	2	11
1913.....	..	1	—	4	4	20	6	1	4	20
1914.....	..	—	10	12	7	18	2	2	4	15
1915.....	..	—	13	6	3	10	1	1	3	16
1916.....	..	—	14	11	1	18	2	2	1	18
1917.....	..	—	8	6	4	10	—	1	2	23
1918.....	..	—	24	10	2	10	—	1	2	65
1919.....	..	—	36	13	4	46	88	3	36	147
1920.....	..	—	45	15	9	89	42	20	112	136
1921.....	..	—	41	13	10	96	122	59	89	128
1922.....	..	—	35	12	6	91	97	35	129	138
1923.....	..	—	22	19	10	102	81	44	88	139
1924.....	..	—	42	15	13	113	77	26	118	136
1925.....	..	—	30	15	13	119	79	43	101	150
1926.....	..	—	19	12	10	111	85	50	154	167
1927.....	..	—	29	17	13	181	101	62	148	197
1928.....	..	—	28	13	24	213	79	57	173	203
1929.....	..	—	30	21	30	207	89	71	147	222
1930.....	..	—	19	27	41	204	114	64	151	255
1931.....	..	1	36	20	38	91	94	55	157	208
1932.....	..	—	35	26	27	343	114	66	150	245
1933.....	..	—	27	12	24	307	116	48	138	258
1934.....	..	—	33	17	38	365	126	67	170	306
1935.....	..	2	52	36	28	491	145	68	225	384
1936.....	..	—	41	38	40	519	179	84	218	451
1937.....	..	2	36	53	43	607	200	112	259	520
1938.....	..	2	51	39	83	824	205	126	271	625
1939.....	..	—	64	40	50	747	181	133	272	581
1940.....	..	—	60	52	62	916	206	125	274	674
1941.....	..	1	68	87	48	949	242	146	311	609
1942.....	..	2	70	69	71	1,185	284	209	375	824
1943.....	..	2	73	114	90	1,243	277	174	413	877
1944.....	..	3	93	78 ¹	108	1,471	316	226	484	1,009
1945.....	..	2	158	171 ¹	177	1,940	405	282	575	1,366
1946.....	..	4	260	382	290	2,639	636	505	962	2,005
1947.....	..	13	207	236	348	3,509	665	509	881	1,826
1948.....	..	49	78 ²	211	292	3,107	477	333	651	1,683
1949.....	..	20	181 ²	202	350	2,396	411	289	594	1,491
1950.....	..	5	13	199	194	2,228	309	280	534	1,377
1951.....	..	4	10	187	156	289	2,102	361	589	1,339
1952.....	..	3	9	188	200	309	2,202	338	630	1,532
1953.....	..	9	15	185	181	273	2,774	374	603	1,478
1954 ^p	8	8	249	117	370	2,346	371	250	610

¹ No autumn term of court held in 1944; cases held over till January 1945. ² By a new rule adopted in August 1948, a *decree nisi* became absolute at the end of three months and as a result a number of divorces did not become effective until the following year.

Section 6.—Vital Statistics of the Yukon Territory and the Northwest Territories

The vital statistics of the Yukon Territory and the Northwest Territories have been collected since 1924. These statistics are not presented with those of the ten provinces in the tables of this Chapter because the figures for some of the early years are not considered complete in that the personal particulars frequently are not available, the small and varying population of each year is not accurately known and, as some areas are accessible only during the summer months, complete returns are not available sufficiently early in the calendar year for inclusion in the national totals for routine publication. A summary of the principal vital statistics for these Territories is presented in Table 23.

23.—Vital Statistics of the Yukon and the Northwest Territories 1926-54

NOTE.—Figures for 1944-54 are by place of residence; for previous years by place of occurrence.

Year	Yukon Territory			Northwest Territories		
	Births	Marriages	Deaths	Births	Marriages	Deaths
	No.	No.	No.	No.	No.	No.
Av. 1926-30.....	33	14	54	158	24	185
“ 1931-35.....	49	24	61	190	41	137
“ 1936-40.....	67	36	72	228	72	177
“ 1941-45.....	105	60	96	383	95	332
“ 1946-50.....	254	73	91	626	139	372
1941.....	72	36	67	314	82	306
1942.....	96	36	108	369	109	222
1943.....	99	67	120	403	94	304
1944.....	136	94	100	316	66	349
1945.....	123	69	87	511	122	478
1946.....	146	66	80	593	177	347
1947.....	224	61	77	625	111	376
1948.....	274	77	112	645	117	370
1949.....	309	76	86	644	134	434
1950.....	316	84	99	622	154	332
1951.....	342	68	85	649	110	284
1952.....	390	73	94	642	100	341
1953.....	383	94	116	676	103	294
1954.....	425	110	85	631	134	250

Section 7.—Canadian Life Tables

Three official life tables for Canada have been published: the first was calculated on the basis of the deaths of 1930-32 and the census population of 1931; the second on the basis of the deaths of 1940-42 and the census population of 1941 and the third was based on the Census of 1951 and deaths during 1950-52. In addition tables have been computed for Canada as a whole for the years 1945 and 1947 based on estimated populations by sex and age and the deaths recorded as having occurred during those years. The life table values for 1951 are given in abbreviated form in Table 24.

Life tables give a summary of the health and general conditions of survival of the population in a conventional, standard form. A hypothetical number (100,000) of births of each sex is assumed as a starting point. The life tables show how, on the basis of the mortality rates at each age in the given years, these 100,000 of each sex are reduced in number by death. For example during the year 1951, of 100,000 males born, 4,325 died in

their first year so that 95,675 survived to one year of age; 326 died in their second year so that 95,349 survived to two years of age, and so on. At 100 years of age only 90 of the original 100,000 would have survived. The probability of death at each age is the ratio between the number of deaths and the population at each age. Finally, the expectation of life is the average number of years which a person might expect to live if the mortality rates in the given years remained constant.

24.—Canadian Life Table 1951

Age	Males				Females			
	Number Living at Each Age	Number Dying Between Each Age and the Next	Probability of Dying Before Reaching Next Birthday	Expectation of Life	Number Living at Each Age	Number Dying Between Each Age and the Next	Probability of Dying Before Reaching Next Birthday	Expectation of Life
At birth.....	100,000		·04325	66·33	100,000		·03423	70·83
1 year.....	95,675	4,325	·00341	68·33	96,577	3,423	·00299	72·33
2 years.....	95,349	326	·00180	67·56	96,289	288	·00154	71·55
3 “.....	95,177	172	·00159	66·68	96,141	148	·00114	70·66
4 “.....	95,026	151	·00118	65·79	96,031	110	·00092	69·74
5 “.....	94,914	112	·00101	64·86	95,943	88	·00079	68·80
10 “.....	94,480	434	·00077	60·15	95,625	318	·00052	64·02
15 “.....	94,083	397	·00112	55·39	95,363	262	·00067	59·19
20 “.....	93,437	646	·00172	50·76	94,992	371	·00091	54·41
		851				465		
25 “.....	92,586		·00182	46·20	94,527		·00106	49·67
		834				534		
30 “.....	91,752		·00189	41·60	93,993		·00129	44·94
		928				682		
35 “.....	90,824		·00227	37·00	93,311		·00177	40·24
		1,175				957		
40 “.....	89,649		·00328	32·45	92,354		·00257	35·63
		1,772				1,395		
45 “.....	87,877		·00524	28·05	90,959		·00387	31·14
		2,793				2,048		
50 “.....	85,084		·00853	23·88	88,911		·00560	26·80
		4,322				2,884		
55 “.....	80,762		·01348	20·02	86,027		·00834	22·61
		6,318				4,238		
60 “.....	74,444		·02071	16·49	81,789		·01308	18·64
		8,629				6,264		
65 “.....	65,815		·03004	13·31	75,525		·02040	14·97
		10,795				8,949		
70 “.....	55,020		·04435	10·41	66,576		·03308	11·62
		13,185				12,626		
75 “.....	41,835		·06938	7·89	53,950		·05567	8·73
		14,842				16,238		
80 “.....	26,993		·10846	5·84	37,712		·09222	6·38
		13,483				16,944		
85 “.....	13,510		·16353	4·27	20,768		·14637	4·57
		8,843				12,831		
90 “.....	4,667		·23667	3·10	7,937		·22183	3·24
		3,718				6,181		
95 “.....	949		·32997	2·24	1,756		·32229	2·27
		895				1,585		
100 “.....	90		·44550	1·60	171		·45146	1·59

Mortality rates at all ages for males have been almost consistently higher than for females. Males have the highest risk of mortality as compared with females during their first year of life, from their late 'teens to early 30's and from age 50 to 65. For both boys and girls the risk of mortality drops rapidly during childhood and is lowest at about age 10, increases gradually to about age 40 for males and about 50 for females and then rises steeply with advancing age. At the mortality rates given in the 1951 Life Table (see Table 24) about 15,000 males would have died before reaching age 50 as compared with about 11,000 females; only 55,000 of the original group of 100,000 males would have survived to age 70 as compared with about 66,500 women.

In Canada by 1951 life expectancy at birth had reached a new high record of 66·3 years for males and 70·8 for females—comparable to the expectancy for other countries of the world with highly developed medical and public health care. Once a child has passed its first year of life however its life expectancy increases appreciably. At one year of age a male child at present mortality risks may on the average expect to live an additional 68·3 years and a female 72·3 years, representing for an infant boy a gain of two full years more than his expectation at birth and 1·5 more years for an infant girl. The expectation of life of a 15 year old boy is 55·4 more years; of a 15 year old girl 59·2 years. At 25 years of age the expectation is about 46 years for men and almost 50 for women and at age 70, 10·4 for men and 11·6 for women.

25.—Expectation of Life 1931, 1941 and 1951

Age	1931		1941		1951	
	Male	Female	Male	Female	Male	Female
	Yrs.	Yrs.	Yrs.	Yrs.	Yrs.	Yrs.
At birth.....	60·00	62·10	62·96	66·30	66·33	70·83
1 year.....	64·69	65·71	66·14	68·73	68·33	72·33
2 years.....	64·46	65·42	65·62	68·16	67·56	71·55
3 ".....	63·84	64·75	64·88	67·38	66·68	70·66
4 ".....	63·11	63·99	64·07	66·56	65·79	69·74
5 ".....	62·30	63·17	63·22	65·69	64·86	68·80
10 ".....	57·96	58·72	58·70	61·08	60·15	64·02
15 ".....	53·41	54·15	54·06	56·36	55·39	59·19
20 ".....	49·05	49·76	49·57	51·76	50·76	54·41
25 ".....	44·83	45·54	45·18	47·26	46·20	49·67
30 ".....	40·55	41·38	40·73	42·81	41·60	44·94
35 ".....	36·23	37·19	36·26	38·37	37·00	40·24
40 ".....	31·98	33·02	31·87	33·99	32·45	35·63
45 ".....	27·79	28·87	27·60	29·67	28·05	31·14
50 ".....	23·72	24·79	23·49	25·46	23·88	26·80
55 ".....	19·88	20·84	19·64	21·42	20·02	22·61
60 ".....	16·29	17·15	16·06	17·62	16·49	18·64
65 ".....	12·98	13·72	12·81	14·08	13·31	14·97
70 ".....	10·06	10·63	9·94	10·93	10·41	11·62
75 ".....	7·57	7·98	7·48	8·19	7·89	8·73
80 ".....	5·61	5·92	5·54	6·03	5·84	6·38
85 ".....	4·10	4·38	4·05	4·35	4·27	4·57
90 ".....	2·97	3·24	2·93	3·13	3·10	3·24
95 ".....	2·14	2·40	2·09	2·26	2·24	2·27
100 ".....	1·53	1·77	1·46	1·64	1·60	1·59

Table 25 summarizes the life expectancy figures extracted from the Canadian Life Tables for 1931, 1941 and 1951. Life expectancy at birth increased for men from 60 in 1931 to over 66 years in 1951 and from 62 to 70.8 years for women during the same period. This is a gain for males of 3.4 years since 1941 compared with a gain of almost 3 years in the previous decade; females gained 4.5 years since 1941 compared with 4.2 years in the preceding decade. Thus, since 1931 a total of 6.3 years have been added to male life expectancy and female longevity has been lengthened by 8.7 years.

The increases in life expectancy have been predominantly at the younger ages, particularly in infancy, and diminish with advanced age. For example, since 1931, 2.6 years have been added to the life expectancy of a 5 year old male, 1.7 years to a 20 year old, almost 6 months to a 40 year old and barely three months to a 60 year old as compared with 6.3 years for a new born male. During this period life expectancy for a 5 year old female gained 5.6 years; for a 20 year old 4.7 years, 2.6 years for a 40 year old and 1.5 years for a 60 year old as compared with 8.7 years for a newborn female.

Longevity has improved for both sexes, though more so and at all ages for females, but there has been only slight improvement for males beyond middle life. Briefly the rapid decline in the death rate for infants of both sexes is continuing, with slower declines with advancing age, so that relatively stationary death rates have been established from about 50 onwards for males and up to about 80 for females.

The fact that such a pattern exists is important in interpreting the results of these life tables. The arbitrary population base of 100,000 of each sex in the tables has been subjected to the mortality rates in effect in 1950-52, and the life expectancy computed as if those death rates at each age were to prevail during their lifetime. Actually the theoretical 200,000 infants born in 1950-52 will most probably have a pattern of survival and life expectancy quite different from that of the present life table as they will spend most of their lives under conditions of public health and medical care which in all likelihood will be superior to those prevailing in 1950-52.

The improvement in life expectancy, particularly among children and adolescents is owing mainly to the substantial reduction in recent years of mortality from infectious diseases; on the other hand diseases associated with middle and old age are much less amenable to control. It is therefore unlikely that improvement in life expectancy in the future will be comparable to that of the past two decades. As approximately 12 p.c. of deaths in 1951 occurred among infants and an additional 72 p.c. among persons over 50 any further improvement must come as the result of further declines in mortality from conditions associated with childbirth and early infancy, further control of infectious diseases, prevention of accidents, and advances in combatting diseases associated with middle and old age, such as cardio-vascular-renal conditions and cancer.

Section 8.—International Comparisons of Vital Statistics

The following table gives a summary of Canada's general and provincial vital statistics rates along with those of several other countries. It will be noted that the low death rate in Canada is bettered by only two countries and that most of the provinces have lower rates than most other countries. The birth rate too makes Canada one of the fastest growing countries and this country currently ranks sixth among the countries listed. However there is marked room for improvement in rates of infant mortality; ten of the countries listed have lower rates than Canada.

(SOURCE.—United Nations Publications)

INTERNATIONAL VITAL STATISTICS

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Country or Province	Births		Deaths		Infant Mortality		Neonatal Mortality ²		Maternal Mortality		Marriages		Natural Increase	
	Rate ³	Rank	Rate ³	Rank	Rate ⁴	Rank	Rate ⁴	Rank	Rate ⁴	Rank	Rate ³	Rank	Rate ³	Rank
Australia.....	22.5	12	9.1	6	22	4	17 ⁵	3	0.9 ⁵	4	7.9	10	13.4	12
Austria.....	14.7	28	12.1	17	48	15	29 ⁵	12	1.5 ⁵	8	7.8	11	2.6	29
Belgium.....	16.8	25	12.4	18	49	16	25 ⁵	10	0.9 ⁵	4	7.7	12	4.4	27
Canada	28.7	6	8.2	2	32	9	19	5	0.7	2	8.5	5	20.5	6
Newfoundland.....	34.3	—	7.3	—	41	—	21	—	1.6	—	7.4	—	27.0	—
Prince Edward Island.....	25.9	—	9.2	—	35	—	21	—	0.7	—	5.8	—	16.7	—
Nova Scotia.....	28.1	—	8.5	—	30	—	16	—	0.5	—	7.8	—	19.6	—
New Brunswick.....	30.4	—	7.8	—	40	—	22	—	0.7	—	7.8	—	22.6	—
Quebec.....	30.4	—	7.6	—	40	—	23	—	1.1	—	—	—	22.8	—
Ontario.....	27.0	—	8.8	—	26	—	18	—	0.5	—	8.9	—	18.2	—
Nantobba.....	26.9	—	8.1	—	28	—	16	—	0.5	—	8.3	—	21.3	—
Saskatchewan.....	28.5	—	7.2	—	29	—	17	—	0.9	—	—	—	18.8	—
Alberta.....	32.3	—	7.2	—	26	—	17	—	0.3	—	—	—	25.1	—
British Columbia.....	26.0	—	9.8	—	26	—	16	—	0.4	—	8.7	—	16.2	—
Ceylon.....	36.2	3	10.4	11	171 ⁷	20	46 ⁵	19	4.9 ⁷	14	6.0	17	25.8	3
Chile.....	35.5	4	13.5	21	147 ⁷	24	43 ⁷	18	3.6 ⁵	12	8.6	4	22.0	4
Denmark.....	17.4	23	9.1	6	27	7	19 ⁵	5	0.8 ⁷	7	8.1	8	8.3	21
England and Wales.....	15.2	27	11.3	14	26	6	18	4	0.7	2	7.7	12	3.9	28
Ireland.....	21.7	14	11.1	16	21	8	19 ⁵	5	1.3 ⁵	7	7.8	11	12.2	13
France.....	18.7	18	10.4	15	31	12	22	8	0.7 ⁷	2	7.2	14	6.8	23
German Federal Republic.....	15.7	26	10.4	15	43	14	29	12	1.9 ⁵	10	8.6	4	5.3	25
India.....	28.4	—	13.2	20	116 ⁵	25	—	—	—	—	—	—	—	—
Iran.....	26.1	15	12.1	17	38	13	22	8	1.1	6	5.4	18	15.2	10
Ireland.....	21.1	17	12.1	17	38	13	22	8	1.1	6	5.4	18	15.2	10
Italy.....	17.6	22	9.0	5	53	18	26 ⁵	12	1.5 ⁵	8	7.3	13	8.6	19
Japan.....	20.1	17	8.2	9	48 ⁷	15	26 ⁵	11	1.7 ⁵	9	7.9	10	11.9	8
Mexico.....	45.8	—	12.9	19	95 ⁷	22	32.6 ⁵	14	2.6 ¹⁰	11	8.2	16	32.9	14
Netherlands.....	21.6	13	7.5	3	21	3	15 ⁵	3	0.8 ⁷	3	8.6	4	14.7	11
New Zealand.....	24.7	10	9.0	5	20	2	15 ⁵	3	0.7 ⁵	2	8.5	15	18.7	18
Norway.....	18.6	16	10.9	13	33	10	21 ⁷	7	0.7	2	7.7	12	10.2	17
Northern Ireland.....	20.8	16	8.4	3	24 ⁵	5	14 ⁵	1	0.8 ⁵	3	7.8	11	9.9	15
Peru.....	30.0	5	9.1	6	114 ⁷	24	39 ⁵	16	4.6 ¹⁰	13	2.6	10	20.2	5
Portugal.....	22.6	11	10.9	13	86	21	31 ⁵	13	1.7 ⁷	9	7.9	10	11.7	15
Scotland.....	18.0	21	12.0	16	31	8	21 ⁵	13	0.7	2	6.2	7	16.0	24
Spain.....	20.0	18	9.1	6	52	17	23 ⁵	9	1.1 ⁹	6	8.0	9	15.9	16
Sweden.....	14.6	29	9.6	8	18	1	14	1	0.9 ¹⁰	4	7.2	14	8.0	24
Switzerland.....	17.0	24	10.0	9	27	7	20 ⁵	6	1.1 ⁵	5	7.8	11	7.0	22
Union of South Africa (Whites).....	25.5	8	8.6	4	34	11	19 ⁵	5	1.0 ⁵	6	10.1 ⁶	3	16.9	8
United States.....	24.9	9	9.2	7	67	7	19	15	0.5	1	9.2	3	15.7	9
Venezuela.....	46.7	1	10.1	10	27	19	35 ⁵	9	—	—	5.4	18	39.6	1
Yugoslavia.....	28.4	7	10.8	12	102	23	40 ⁵	17	—	—	9.9	2	17.6	7

¹ Countries are ranked according to the highest rates for births, marriages and natural increase and according to the lowest for deaths.
² Under 4 weeks unless otherwise stated.
³ Per 1,000 population.
⁴ Per 1,000 live births.
⁵ 1952.
⁶ Under 1 month.
⁷ 1953.
⁸ Registration area only.
⁹ 1950.
¹⁰ 1951.

CHAPTER VI.—PUBLIC HEALTH, WELFARE AND SOCIAL SECURITY

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

A special article on the development of public health, welfare and social security in Canada appears in the 1952-53 Year Book, pp. 224-229. The article outlines the evolution of provincial and municipal administration, the development of federal responsibility, and governmental expenditure in the fields of health, welfare and social security. A special article dealing in detail with the National Health Grant Program appears at pp. 215-223 of the 1954 edition. A chart on p. 230 of the 1955 Year Book shows net general and capital expenditures on health and welfare and total spent, by level of government, for the years 1947-53.

PART I.—PUBLIC HEALTH

Section 1.—Federal, Provincial and Municipal Health Activities*

The planning, supervising and financing of public health and medical care services in Canada rest mainly with the provinces though the actual administration of services is conducted in most provinces by municipal and other local authorities. The Federal

* Prepared by the Research Division, Department of National Health and Welfare, Ottawa.

Government provides consultative and specialist services, assists in the financing of provincial health activities through the National Health Program and also maintains services for special groups such as veterans and Indians.

Subsection 1.—Federal Health Activities

Federal participation in health matters is largely centred in the Department of National Health and Welfare, with certain important programs being administered by the Department of Veterans Affairs which provides medical and hospital care to veterans, chiefly for disabilities resulting from war service; the Department of National Defence, responsible for the health of the Armed Forces; the Medical Division of the National Research Council which administers grants for medical research; and the Dominion Bureau of Statistics, responsible for the collection and compilation of health statistics. The Department of Agriculture has certain responsibilities in connection with food production.

Under the Department of National Health and Welfare Act of 1944 the Department is responsible for the administration of certain statutes, for research in health matters, for the carrying out of international health obligations undertaken by Canada and, in co-operation with the provinces, for the preservation and improvement of public health.

Under the Quarantine Act the Department maintains a maritime and aerial navigation quarantine service against entry of infectious diseases; it advises on the administration of sections of the Immigration Act dealing with health and conducts, in Canada and overseas, the medical examination of applicants for immigration. It also provides care for sick mariners as required under Part V of the Canada Shipping Act, and has certain national and international responsibilities with regard to the pollution of boundary and other waters.

Under the Food and Drugs Act, the Proprietary or Patent Medicine Act and the Opium and Narcotic Drug Act, the Department is responsible for the control of the safety and purity of food and drugs; the registration, preparation and sale of proprietary or patent medicines; and control of the import, export and distribution of narcotic drugs.

The Department advises on the visual eligibility of applicants for blindness allowances and co-operates with the provinces in the provision of surgical or remedial treatment for selected recipients of these allowances; it is responsible for supervision of health conditions for persons employed on federal public works, as provided under the Public Works Health Act, and maintains a program for the conservation and promotion of the health of civil servants and other Federal Government employees. Medical advisory services are provided for the Department of Transport in all matters pertaining to the safety, health and comfort of air crew and passengers.

The National Health Program.*—The National Health Program, introduced in 1948, provides for the payment of federal grants to the provinces for the development of health and hospital services; at the present time 12 grants are available.

Since the inception of the program the provinces have steadily increased their utilization of the grants. The annual amounts of expenditure in each fiscal year have been as follows: 1948-49, \$7,400,000; 1949-50, \$15,500,000; 1950-51, \$18,700,000; 1951-52, \$23,900,000; 1952-53, \$26,900,000; 1953-54, \$29,200,000; and 1954-55, \$31,600,000. From 1948 to 1954 expenditures amounted to approximately 59 p.c. of the funds available; the following figures show that the proportion for 1954-55 was 64 p.c.

* A special article on the first five years of the National Health Program is given in the 1954 Year Book, pp. 215-223.

1.—Amounts Available to the Provinces and Amounts and Percentages Expended under the National Health Program by Grant, Year Ended Mar. 31, 1955

Grant	Amount Available ¹	Amount Expended	Proportion Expended ²
	\$	\$	p.c.
Cancer control.....	3,598,795	2,642,920	73.4
Crippled children.....	519,898	427,319	82.1
General public health.....	7,390,500	5,317,565	71.9
Hospital construction ³	17,729,698	9,456,990	53.3
Mental health.....	7,234,868	6,013,547	83.1
Professional training.....	516,300	655,781	127.0
Public health research.....	512,900	437,952	85.3
Tuberculosis control.....	4,239,531	4,239,282	99.9
Veneral disease control.....	518,099	438,883	84.7
Child and maternal health ⁴	1,000,000	560,384	56.0
Laboratory and radiological services ⁴	5,173,350	1,238,125	23.9
Medical rehabilitation ⁴	1,000,000	168,677	16.8
Totals.....	49,433,939	31,597,425	63.9

¹ Authorized by P.C. 1954-15/659.

² Expenditures may exceed 100 p.c. of amounts available through transfer of unexpended funds from one grant to another.

³ Grant consisted of \$6,729,698 for new projects and a revote of \$11,000,000 to complete projects approved before Apr. 1, 1953, on which construction started before Oct. 1, 1953.

⁴ First introduced in the fiscal year 1953-54.

Under the Program, up to the end of the fiscal year 1954-55, aid for construction was approved for 54,754 beds, 6,597 bassinets, 8,576 nurses' beds and space in community health centres and combined laboratories exceeding 4,000 bed equivalents. Approximately 9,100 health workers had been trained or were undergoing special training and more than 5,400 additional health workers had been employed with federal grant assistance. Preventive and treatment services across the country were greatly extended, health facilities had been aided by the purchase of additional technical equipment and a significant increase in health research was made possible.

Federal Grants to Non-governmental Organizations.—Grants are paid directly to the following non-governmental agencies engaged in health work: the Canadian Red Cross Society, the Canadian Tuberculosis Association, the Victorian Order of Nurses, the St. John Ambulance Association, the Canadian Paraplegic Association, the Canadian Mental Health Association, the Health League of Canada, the Canadian Public Health Association, the Canadian National Institute for the Blind, L'Association Canadienne-Française des Aveugles, L'Institut Nazareth de Montréal, and the Montreal Association for the Blind.

Federal grants are also provided under the National Health Grant Program to assist in the operation of special treatment services carried out in a number of provinces by voluntary organizations, such as the Canadian Arthritis and Rheumatism Society and various agencies engaged in the rehabilitation of crippled children.

Medical Care of Indians and Eskimos.—Health services for Indians and Eskimos are administered by the Department of National Health and Welfare. In 1954, 18 hospitals, 33 nursing stations and 65 other health centres were operated by the Department which also reimburses on a per diem basis the mission and other non-federal hospitals that provide accommodation for Indians and Eskimos. Full time departmental medical officers serve the larger Indian reserves and part time officers serve the smaller bands. Fees are also paid to local physicians for services to Indians. Information relating to all health services provided in the Yukon and Northwest Territories is given at pp. 247-48.

Consultative Services.—Certain Divisions of the Department provide technical information and advice concerning the evaluation of programs and procedures and the establishment of standards in various health fields, and conduct surveys in research and development both independently and in co-operation with other departments and agencies.

These Divisions include Blindness Control, Child and Maternal Health, Occupational Health, Nutrition, Mental Health, Dental Health, Epidemiology, Hospital Design, the Laboratory of Hygiene, Information Services, and Research.

Subsection 2.—The Dominion Council of Health

The Dominion Council of Health is a statutory advisory body to the Minister of National Health and Welfare, established in 1919 and deriving its present legislative authority from Sect. 7 of the National Health and Welfare Act 1944 (R.S.C. 1952, c. 74). It is composed of the Deputy Minister of National Health who acts as Chairman, the deputy ministers of health of each of the ten provinces and five appointees of the Governor in Council, selected by tradition to represent such major segments of the population as agriculture, organized labour and women's organizations.

The duties and powers of the Council as formally prescribed by the Governor in Council are:—

- (1) The consideration of matters relating to the promotion or preservation of the health of the people of Canada and the initiation of recommendations and proposals to the Minister of National Health and Welfare and other appropriate authorities in regard thereto;
- (2) The furnishing of advice to the Minister of National Health and Welfare in respect to the matters provided in Sect. 5 of the Department of National Health and Welfare Act, relating to the promotion or preservation of the health of the people of Canada, over which the Parliament of Canada has jurisdiction.

Through the Council a direct means of co-operation at the technical level is provided between provincial health departments and the Department of National Health and Welfare. In addition to being able to draw on both federal and provincial resources to aid its deliberations it is assisted by a number of technical advisory committees composed of federal and provincial officials in different specialized fields. These committees include the Technical Advisory Committee on Public Health Laboratory Services, the Advisory Committee on Mental Health, the Federal-Provincial Nutrition Committee, the Federal-Provincial Conference on Health Education, the Federal-Provincial Conference of Communicable Disease Control Directors and the Technical Advisory Committee on Public Health Engineering.

The Council usually meets twice each year. Any member may submit items for the agenda and any agency wishing to make representation to the Council may do so. Consideration of a matter by the Council usually infers that it is of some common interest or concern to more than one province, but members are free to seek its advice regarding a problem of particular or individual interest should they so desire.

Although the Council is of a purely advisory character its recommendations reflect the considered opinions of senior health administrators and scientific workers across the country and have had very considerable influence on the development of public health administration in Canada. The recommendations frequently have led to an early combined approach by federal and provincial governments which might otherwise have been achieved only after long periods of negotiation.

The unique effectiveness of an organization such as this, in a federally governed country, has been demonstrated on a number of occasions. The Council has taken an active part in the development of the National Health Program and, in addition to advising on the general operation of the program and on situations developing in different provinces, has played an important role in such combined federal-provincial projects as the National Sickness Survey. Through the arrangements made by the Council for the production and distribution of ACTH and cortisone for use by clinical investigators throughout Canada it has been estimated that the clinical assessment of their value was advanced by at least two years. In the same way the Council was able to facilitate arrangements for the production of gamma globulin and later of Salk vaccine (*see pp. 258-60*).

Because of its character the Council can act objectively in promoting the best interests of public health. It has come to be regarded and respected as a focal point of national leadership in assessing and meeting Canada's health needs.

Subsection 3.—Provincial and Municipal Health Activities

Health services in the provinces are administered in different ways but provincial functions commonly include central planning and administration; the operation of special programs affecting the entire province in such fields as cancer, mental health, tuberculosis and laboratories; consultant service to local authorities; the administration of regulations governing local services; the provision of basic services in areas without municipal organization; and participation in the work of local health units in areas where that type of administration has been developed.

At the local level responsibility for services varies widely but municipalities in most provinces provide a range of basic public health services and participate in the costs of hospital care for indigents. In recent years there has been a rapid growth of health services in smaller centres and rural areas through the organization of health units with full time staff serving counties or other combinations of local government areas. This type of organization concentrates on a generalized health program that includes public health nursing, sanitary inspection, communicable disease control, child, maternal and school hygiene and health education and has been introduced in most provinces; financial and administrative responsibility is shared by the provincial and local authorities involved. Despite a trend towards greater provincial participation in these local units many remain under local administration as do the highly developed health departments found in the larger cities. Outside of fully organized health-unit areas municipalities usually appoint part time medical officers and other personnel while the provincial authorities assume responsibility in the areas lacking municipal organization.

Newfoundland.—Health measures in Newfoundland are centrally administered by the Department of Health. Its main functions include the operation of tuberculosis, venereal disease and other communicable disease control programs, nutrition and sanitary inspection services, the operation of provincial hospitals and the provision of prepaid medical, hospital and nursing care throughout large areas of the Island of Newfoundland.

The Province operates a general hospital at St. John's, administers the cottage hospital scheme and subsidizes other general hospitals maintained by voluntary organizations. The cottage hospital scheme, operated on a voluntary prepayment basis, is designed to provide hospital service and domiciliary medical care for people living in outlying areas. Services are provided through 18 small hospitals which have a total capacity of almost 500 beds; most of them are equipped with laboratory and X-ray facilities. Medical officers and nursing stations in adjoining communities supplement these services. In most cottage hospital areas prepayment of \$15 annually for the head of each family and \$7.50 for single adults entitles subscribers to outpatient diagnosis and treatment, to home visits by the doctor and to hospitalization. The cost of medical and hospital care for indigents is generally borne by the Province.

The Department of Health operates tuberculosis sanatoria at St. John's and Corner Brook. Free X-ray and diagnostic services are provided by these institutions supplemented by BCG vaccination and case-finding surveys conducted in co-operation with the Newfoundland Tuberculosis Association. The Department also subsidizes diagnostic and treatment services conducted in the northern areas by the International Grenfell Association and the Notre Dame Bay Memorial Hospital.

The mental health program is centred in the Hospital for Mental and Nervous Diseases at St. John's; a day-treatment unit has various forms of therapy for outpatients.

Provincially administered venereal disease clinics operate at St. John's and at various cottage hospitals throughout the Province. Free treatment services and drugs for venereal disease are available to persons attending the central clinic, cottage hospital subscribers and medical indigents.

A nutrition program includes educational work and such activities as the distribution of concentrated orange juice and cod-liver oil. Public dental services are provided through a provincial clinic at St. John's and a seaborne dental clinic in the Bonne Bay area is operated by the Junior Red Cross.

Prince Edward Island.—The Health Branch of the Department of Health and Welfare includes Divisions of Public Health Nursing, Nutrition, Sanitary Engineering, Dental Health, Laboratories, Venereal Disease Control, Cancer Control, Tuberculosis Control, Mental Health and Vital Statistics.

Generalized public health nursing services are conducted by four district nurses and sanitary services are provided by three inspectors under the direction of a public health engineer. Free dental treatment is available for needy children at permanent clinics in Charlottetown and Summerside and for children in Grade I classes in rural areas through two mobile units. Branch laboratories in seven of the larger hospitals operate under the supervision of the Central Laboratory at Charlottetown. A provincial venereal disease clinic is also operated at Charlottetown.

Free diagnostic services for tuberculosis are made available through two stationary clinics and a mobile unit is operated by the Tuberculosis League. At the Provincial Sanatorium at Charlottetown treatment services, though not unqualifiedly free, are heavily subsidized by the Province; rehabilitation training and employment-placement services are provided. The Sanatorium contains a special treatment unit for poliomyelitis patients with residual paralysis; the Province pays the full cost of treatment as well as 50 p.c. of the cost of hospital care and special nursing services in general hospitals for patients in the acute stage of the disease.

Free diagnostic services for cancer are given at a clinic located at Charlottetown. Hospitalization for diagnosis is provided without charge for a period of three days for indigent cancer patients. A mental health diagnostic clinic and a speech therapy service for school children with speech and hearing impairments are operated at Charlottetown.

Per diem grants are made to general hospitals for all patients and the Province also defrays the cost of operating the Falconwood Mental Hospital and the Provincial Infirmary.

Nova Scotia.—The principal Divisions of the Department of Public Health are Laboratories, Neuropsychiatry, Hospitals, Vital Statistics, Dental Services, Nutrition, Nursing Service, Environmental Hygiene, Child and Maternal Health and Communicable Disease Control. In addition a provincial program of generalized public health services is administered through eight local health divisions, each staffed by public health nurses and sanitary inspectors under the supervision of a full time divisional medical health officer. The City of Halifax operates its own Health Department.

Laboratory services including bacteriological, pathological and other examinations and milk and water analyses, have been improved and extended through the work of the Provincial Central Laboratory at Halifax and branch laboratories at Sydney and Kentville. Laboratory test and field investigations are also conducted by the Division of Environmental Hygiene.

Field services for the detection of tuberculosis and venereal disease are mainly provided through the local health divisions. The Department also maintains two clinics for the free treatment of venereal disease, and conducts mass tuberculosis X-ray surveys and rehabilitation services in co-operation with the Nova Scotia Tuberculosis Association. Free treatment for tuberculosis is provided in three provincial sanatoria and the municipal sanatorium at Halifax.

Institutional facilities for mental patients include an active treatment mental hospital and a training school for mental defectives, both provincially operated, and 17 county homes administered by local government authorities. Mental health clinics are in operation at Sydney and Halifax, and inpatient and outpatient psychiatric services are provided at the Victoria General Hospital, Halifax.

Three provincial mobile dental clinics provide treatment for children in rural areas. A cancer clinic and a treatment clinic for poliomyelitis form part of the service at the provincially owned Victoria General Hospital; branch poliomyelitis clinics have been established at Sydney and Antigonish. All approved general hospitals receive a provincial per diem subsidy for each patient.

Recipients of blind persons' allowances and mothers' allowances are eligible for limited medical services from the Medical Society of Nova Scotia and persons in any of the public assistance categories as well as other indigents are entitled to receive hospitalization as a municipal responsibility.

New Brunswick.—The Health Branch of the Department of Health and Social Services includes the following Divisions: Hospital Services and Cancer Control, Laboratories, Public Health Nursing, Communicable and Venereal Disease Control, Tuberculosis Control, Maternal and Child Health, Dental Health, Mental Health, and Sanitary Engineering.

All district medical health officers and most public health nurses are employed by the Province and other local health services are appointed by the boards of health of 16 local health sub-districts, each corresponding to a county. Usually from two to four sub-districts are serviced by a district medical health officer assisted by public health nurses. Certain locally administered nursing and sanitary inspection services are subsidized by the Province.

Pathological, bacteriological, serological and chemical tests are provided by the Provincial Laboratories at Saint John and two regional laboratories at Moncton and Fredericton. Free distribution of biologicals and other materials for the prevention of communicable disease and insulin for indigent diabetics is supervised by the Provincial Laboratories. Free diagnostic services for tuberculosis are provided in ten centres, including a central clinic operated by the New Brunswick Tuberculosis Association at Saint John. The Health Department supervises and provides free treatment in two privately operated, one municipal and two provincially owned sanatoria. One clinic for the treatment of venereal disease is operated at Saint John.

Eleven cancer diagnostic clinics provide free diagnosis and free tissue-examination service. X-ray and radium treatments are provided without charge in four of the larger hospitals to patients who come under the supervision of the cancer clinics. Acute and postparalytic cases of poliomyelitis also receive free hospital treatment and grants are made to the Junior Red Cross to provide free treatment for other crippling conditions in children.

A mental health program includes the operation of three community clinics for diagnosis and treatment and a day training school for mentally retarded children at Saint John. Hospitalization for mental illness is available in the provincial hospitals at Lancaster and Campbellton.

Provincial per diem grants are paid on behalf of all patients to approved general hospitals.

Quebec.—The Ministry of Health maintains the following Divisions: County Health Units, Sanitary Engineering, Epidemiology, Laboratories, Demography, Psychiatric Hospitals, Public Charities, Industrial Hygiene, Nutrition, Venereal Disease, Tuberculosis, Health Education, and Medical Services to Settlers.

The Division of County Health Units supplies services through 67 county and multi-county health units covering more than 60 p.c. of the population of the Province. The maintenance and operation of these units, each with a full time medical health officer assisted by public health nurses and sanitary inspectors, is the responsibility of the Ministry of Health, with small local financial contributions. In addition full time health departments operated by the larger cities serve more than one-third of the provincial population. Drugs supplied by the Provincial Department to physicians and health units include vaccines, sera, streptomycin for sanatoria patients and penicillin for venereal disease. Laboratory services, including bacteriological and other analyses, are available to physicians and health units at the Central Laboratory, Montreal.

The Province organizes tuberculosis clinics in rural areas and gives assistance to city agencies operating clinics or dispensaries for prevention, case-finding and treatment. BCG immunization against tuberculosis, administered to new-born infants in hospitals

and available to children generally through the health units, is a special feature of the control program. The Department supervises and subsidizes tuberculosis sanatoria and mental institutions, which are operated chiefly under private and religious auspices; in these the majority of patients receive care without charge.

The Medical Services to Settlers Division provides free nursing and physician services to residents of isolated areas. The staff consists of salaried nurses and part time physicians paid on a fee-for-service basis. Services given include obstetrical care, examinations, vaccinations and immunizations, and emergency medical care.

No specially organized program of medical care exists for public assistance recipients in Quebec although free care to indigents is available from a variety of dispensaries, clinics and other charitable agencies. Under the provisions of the Public Charities Act free public hospital care is provided to persons unable to pay, with about 50 p.c. of the cost assumed by the Province, 15 p.c. by the responsible municipality and the remainder by the recognized agency providing the service.

Ontario.—The Department of Health carries on public health services through the following Divisions: Health Units, Public Health Nursing, Maternal and Child Hygiene, Dental Services, Epidemiology, Venereal Disease Control, Tuberculosis Prevention, Industrial Hygiene, Laboratories, Medical Statistics, Mental Health, Nursing, Public and Private Hospitals, and Sanitary Engineering.

Local public health services are available to more than one-quarter of the population through 27 health units administered locally but with consultative services and financial support supplied by the Department. Elsewhere local services are organized through full or part time municipal health departments and, in unorganized territory, are organized by the Province. Provincial grants are made to local boards of health for school dental services and venereal disease clinics and special grants are made to hospitals for the treatment of poliomyelitis patients.

Public health legislation affecting water supplies, milk and food and other environmental sanitation is administered by the Department. Maternal and child health care is provided through clinics and in addition any expectant mother may receive one free prenatal examination. Systematic dental examinations for children combined with instruction in dental hygiene have been initiated in five local health units and two city health departments; school dental treatment services are provided by various municipalities. In northern areas two railway dental cars operated by the Province and three mobile units maintained by the Red Cross provide educational and treatment services in less populated districts.

The Central Laboratory, 13 regional laboratories, five subsidized associated laboratories and one mobile unit carry out bacteriological and other examinations for clinics, hospitals and private physicians. Biologicals and other materials for the prevention and control of communicable diseases, insulin for indigent diabetics and streptomycin for tubercular patients are distributed free of charge by the Department. Chest clinics held in more than 200 centres are financed mainly through funds of local tuberculosis associations and the Department. The Province pays the major portion of the cost of maintaining patients in 14 sanatoria operated by voluntary groups. Cancer control services are administered by the Ontario Cancer Treatment and Research Foundation and provincial grants are given to this organization to subsidize treatment in eight regional centres. Care is provided for the mentally ill in 17 institutions operated by the Province; these include special units for mental defectives, epileptics, the tubercular and the criminally insane. Community mental health services such as psychiatric wards in general hospitals, travelling clinics and child guidance centres have been widely developed by general and mental hospitals, municipal health departments and other agencies. The Ontario Alcoholism Treatment and Research Foundation operates a special treatment centre for alcoholics. •

A formal arrangement between the Province and the Ontario Medical Association makes limited medical services available to the recipients of all types of public assistance, including former means-test old age pensioners now receiving the universal pension, and

persons receiving old age assistance, blindness allowances, mothers' allowances, disabled persons' allowances and unemployment relief. New applicants for the universal old age pension may qualify under the medical plan on a means-test basis. With the exception of unemployment relief cases, where the costs are shared equally by the Province and the responsible municipality, the Province assumes the costs of such services which are paid on a fee-for-service basis from a special fund.

Provincial per diem grants which vary according to hospital size are paid to all public hospitals on the basis of public-ward bed days. Special per diem grants are also made by municipalities on behalf of hospitalized indigent residents, including public assistance recipients.

Manitoba.—The Health Branch of the Department of Health and Public Welfare includes Sections of Extension Health Services, Preventive Medical Services, Environmental Sanitation, Laboratory Services and the Division of Psychiatric Services.

Local preventive health services including health and laboratory and X-ray units are operated by the Health Extension Section which recovers part of the costs from the municipalities served. Public health services currently covering approximately one-third of the Province's population are provided through 13 full time units, each comprising a variable number of municipalities; another third of the population is covered by Winnipeg's health service facilities. In three health-unit areas prepaid diagnostic X-ray and laboratory facilities have been organized. Outside the health-unit areas the Provincial Nursing Service provides certain public health services. Mobile clinics provide dental services for children in rural areas.

Under a system of district organization for hospital facilities, 52 hospital districts have been established; all but two contain at least one general hospital augmented in many districts by one or more medical nursing units. Municipal prepayment plans for medical care operate in a number of medical-care districts.

Provincial mental institutions are operated at Winnipeg, Selkirk and Brandon and a school for the mentally defective at Portage la Prairie. Community mental health services are also conducted, including outpatient services at mental hospitals and child guidance clinics.

A provincially operated clinic at St. Boniface provides preventive and treatment services for venereal disease. Tuberculosis control is administered by the Sanatorium Board of Manitoba and services include diagnostic and travelling clinics, chest X-ray surveys and a rehabilitation program. The Province assists in the program by maintaining a Central Registry of Tuberculosis and a follow-up service for discharged patients carried out by public health nurses. The cost of hospitalization and treatment in sanatoria is met by provincial grants. The Manitoba Cancer Relief and Research Institute, which is subsidized by the Province, administers all cancer activities. A free cancer biopsy service is available and diagnostic services are provided to medically indigent rural residents. Radium and X-ray treatments are available without charge to rural residents and at a nominal charge to residents of Greater Winnipeg.

Laboratory services are provided through provincial laboratories at Winnipeg and Brandon. In addition the Department distributes to doctors, hospitals and government agencies, penicillin and other drugs for the treatment of venereal disease, insulin and other biologicals for indigents and antibiotics for tubercular patients.

The Provincial Government contributes a grant of \$1 per diem to general hospitals and lump sum grants to teaching hospitals. The government pays \$4.10 per day for patients in sanatoria to the Sanatorium Board of Manitoba.

Public assistance recipients in Manitoba are eligible for limited medical, dental and optical care, on a means-test basis, with the major share of the cost of services assumed by the responsible municipality. Hospital care is provided on a similar basis, municipalities making a per diem payment for persons with local residence, in addition to the provincial per diem grants. The Province assumes the cost of medical and hospital care provided to some indigents who are unable to establish local residence.

Saskatchewan.—The Saskatchewan Department of Public Health has five main Branches: Regional Health Services, Medical and Hospital Services, Psychiatric Services, Research and Statistics, and Administrative Services. The Health Services Planning Commission functions as an advisory and planning agency on major policy and administrative matters in the Department.

The Regional Health Services Branch includes Divisions of Communicable Disease Control, Child Health, Venereal Disease Control, Nursing Services, Dental Health, Nutrition and Sanitation. These Divisions organize province wide programs and provide consultative services to local health personnel. The Communicable Disease Control Division distributes free vaccines and sera, and supervises immunization programs. Four clinics for diagnosis and treatment are maintained by the Venereal Disease Control Division. Field services for venereal disease, tuberculosis, mental health and other public health programs are supplied by the Nursing Services Division. Public health laboratory services and the free distribution of certain drugs and biologicals are carried out by the Provincial Laboratories.

The Regional Health Services Branch is also responsible for the organization of health regions which are administered by locally elected health boards although staff is appointed and financial assistance is provided by the Province. Eight of the proposed regions are currently in operation. In addition to the general public health services provided in all regions the Swift Current Health Region has a prepaid medical care plan including general practitioner, specialist and diagnostic services for all residents, and limited dental services for children. The plan is financed by personal and property taxes with some Provincial Government contributions. Preventive dental health programs for children have been launched in other regions.

The Medical and Hospital Services Branch is responsible for the operation of the Saskatchewan Hospital Services Plan, administers the program of medical services to public assistance recipients, supervises the operations of the municipal doctor programs and the Air Ambulance Service, and administers a rehabilitation program for crippled children and poliomyelitis patients through the Physical Restoration Division. In addition to free hospital care, complete medical as well as dental and optical services, including some auxiliary services, are provided to the recipients (including spouses) of the universal old age pension who were formerly in receipt of the old age means-test pension or who can qualify for the provincial supplementary allowance. Persons and their dependants receiving blindness or mothers' allowances, social aid cases and provincial wards are also eligible. Drugs are provided subject to deterrent charges of 20 p.c. of the costs paid by patients. The Provincial Government meets the expenses under the medical program and for most of these cases the hospital insurance tax as well. Provincial subsidies of 25 cents per capita per annum and equalization grants are paid to over 100 municipalities with municipal doctor contracts.

The Psychiatric Services Branch supervises psychiatric hospitals and administers community psychiatric services including clinics. Free care and treatment is given for all mentally ill and mentally defective persons requiring hospitalization. The tuberculosis control program operated by the Saskatchewan Anti-tuberculosis League includes preventive and treatment services, the latter financed by provincial per diem grants and municipal levies. The Saskatchewan Cancer Commission co-ordinates all cancer control measures and operates publicly financed consultative, diagnostic and treatment clinics at Saskatoon and Regina.

Under the Saskatchewan Hospital Services Plan, which is a universal compulsory hospital-insurance scheme, most residents are eligible for inpatient public ward care by the annual prepayment of a personal tax of \$15 by all persons 18 years of age or over and of \$5 for each dependant under 18 years of age, with a maximum family tax of \$40. Additional funds are provided by the Province as needed from general revenue including, since April 1950, one-third of the proceeds of a 3 p.c. sales tax.

Alberta.—The Department of Public Health includes Divisions of Communicable Diseases and Health Units, Public Health Education, Hospital and Medical Services, Provincial Laboratories, Public Health Nursing, Social Hygiene, Sanitary Engineering, Cancer Services, Mental Health, Tuberculosis Control, Public Health Entomology, Nutrition Services and Vital Statistics.

For the provision of local health services the Province is divided into health-unit districts administered with Departmental supervision and financial aid by local boards of health composed of members appointed by local governments. Fifteen units are directed by full time medical health officers and one unit by a public health nurse. Outside the health-unit areas the Department operates a district nursing service in outlying communities and is generally responsible for health services in unorganized territory. The larger cities have their own full time health departments.

Free services regularly provided through Departmental clinics include diagnosis and treatment for venereal disease, medical examination for cancer, mental guidance and psychiatric examinations, X-ray examinations and tests for tuberculosis at stationary and travelling clinics, and mobile X-ray units. Provincial laboratory services at Edmonton and Calgary are available to all doctors and approved hospitals, and sera and biologicals are distributed for preventive work.

On the recommendation of provincial cancer clinics, surgical, X-ray and radium treatment, and hospitalization up to a limit of seven days for diagnostic purposes are provided by the Department. There are five provincial institutions for the mentally ill and one for mental defectives. Sanatoria care and treatment are provided without charge for all resident tubercular patients and outpatient pneumothorax services are also available. The Department bears the cost of hospital care for a period up to 90 days and medical treatment for rheumatoid arthritic patients under 25 years of age and provides all residents suffering from poliomyelitis with medical, surgical and hospital care and rehabilitation services. Provision has been made to extend treatment services to cerebral palsy patients. All maternity patients satisfying residence requirements may be hospitalized for a 12 day period at provincial expense and a provincial grant is authorized to assist those who receive maternity services at home.

By agreement with the Alberta College of Physicians and Surgeons and the Dental Association, medical, optical and some dental services are provided to all persons (and dependants) on the universal old age pension who were formerly in receipt of the means-test pension or who can qualify for the provincial supplementary allowance, as well as recipients of old age assistance, widows' pensions and blindness and mothers' allowances. The Province assumes the cost involved and also reimburses the municipalities for 60 p.c. of their expenditure on any medical care provided to local indigents. Public assistance recipients receive standard public ward care and necessary drugs, for which the Province pays reduced per diem rates.

A municipal hospital program provides standard hospitalization for a majority of the population of the Province. The plan is operated at the local level under provincial supervision, with costs distributed among the patient, the municipality and the Provincial Government. The patient is charged \$2 per day and the municipality meets the remainder of agreed charges for public ward care and extra services. The Provincial Government then reimburses the municipality for 50 or 60 p.c. of this amount, depending on the nature of the local program.

British Columbia.—The Health Branch of the Department of Health and Welfare consists of three bureaux, two located at Victoria and one at Vancouver. The Bureau of Local Health Services at Victoria includes Divisions of Health Units, Public Health Nursing, Public Health Engineering, Environmental Management, and Preventive Dentistry. The Central Administration Bureau, also at Victoria, includes Vital Statistics and Public Health Education. The Divisions of Tuberculosis Control, Venereal Disease Control and Laboratories form the Bureau of Special Preventive and Treatment Services located at Vancouver.

The provision of local public health services is on a health-unit basis. These units are administered and staffed by the Province but are jointly financed by the Province and the local municipalities concerned. Sixteen units, covering 50 p.c. of the population, are in operation. The cities of Vancouver and Victoria have their own health departments.

Special provincial public health services include tuberculosis clinics which provide free diagnostic and consultative service, venereal disease clinics which offer free diagnosis and treatment, and maternal and child health clinics operated by public health nurses which provide immunization and prenatal and postnatal advice. Public health laboratory facilities include a central laboratory at Vancouver and branch laboratories at Nelson and Victoria. Child dental clinics with local dentists participating are established in more than 60 communities, the costs being met equally by the community and the Province. In connection with mental health services the Province operates stationary and travelling child guidance clinics. A clinic of psychological medicine at the provincial hospital at Essondale functions as an investigatory and active treatment centre for short term patients.

Special cancer services including a treatment centre and a nursing home at Vancouver, consultative clinics located throughout the Province and a free province wide biopsy service have been developed by the British Columbia Cancer Foundation, an official agent of the Provincial Government. The Province pays the operating costs of the Foundation and helps finance voluntary programs concerned with the physical rehabilitation of the orthopaedically disabled, cerebral palsied children, the care and treatment of arthritides, and the maintenance of blood transfusion services.

Institutions for the care of tubercular and mental patients and infirmaries for persons with incapacitating disabilities are operated by the Province. Indigents are hospitalized in these institutions at public expense while other patients pay if financially able. Rehabilitation services are available to tubercular and mental patients.

Full medical, dental and optical care, prescribed drugs and some auxiliary services are provided to all persons (and their dependants) receiving the universal old age pension who were formerly on the means-test old age pension or who can qualify for the provincial supplementary allowance, and to recipients (including dependants) of old age assistance, blindness or mothers' allowances, local relief and to certain child wards. The Provincial Government assumes the costs of hospitalization for all such persons. Where they hold municipal residence the Province assumes 80 p.c. of the cost of the medical program, the remainder being shared by all municipalities on a population basis.

Public ward hospital services are available to all provincial residents through a public hospital care program administered by the Hospital Insurance Service. Before 1954 the plan was financed mainly by flat rate premiums, but costs now are met from general revenues and part of the provincial sales tax. Payment of \$1 for each day of hospitalization, with no maximum, is required of patients.

The Yukon and Northwest Territories.—Health services in the Yukon and Northwest Territories are provided through a network of services by different government agencies, by the churches and, in some settled areas, by private practitioners. Services for the native population are maintained by the directorate of Indian Health Services of the Department of National Health and Welfare, for the white population by the Yukon Territorial Government, the Northwest Territories Council, and the Department of Northern Affairs and National Resources and for the Armed Forces by the Department of National Defence.

There are four general hospitals with a capacity of 151 beds in the Yukon Territory—at Whitehorse and at Mayo which are operated by the Territorial Government, at Dawson, operated by the Roman Catholic Church and another at Whitehorse by the Department of National Defence. Of the six private physicians in the Territory, three are employed on a part time basis as medical health officers by the Territorial Government and one by the Directorate of Indian Health Services. There are three dentists in the Territory, one of whom does part time work for Indian Health Services.

There are 11 hospitals and eight nursing stations in the Northwest Territories with a combined total of 648 beds, of which about 461 are used for tuberculosis patients. Six hospitals at Aklavik, Chesterfield Inlet, Fort Simpson, Fort Resolution, Fort Smith and Fort Rae are operated by the Roman Catholic Church; two hospitals at Aklavik and Pangnirtung and one nursing station at Hay River are operated by the Church of England. The Yellowknife Administrative District operates one hospital and two others are maintained by mining companies at Port Radium and Norman Wells. The Department's Indian Health Services maintains six nursing stations and the Pentecostal Church operate one at Hay River. There are 11 physicians in the territory, nine of whom are employed by Indian Health Services, eight public health nurses and two dentists of whom six and one respectively are employed by Indian Health Services.

In the Yukon Territory health services for the non-native population are administered through the Commissioner for the Yukon. The Territorial Government provides complete treatment including transportation for tuberculosis and poliomyelitis patients and hospital care for indigent residents. Grants are made to cover the operating deficits of the two general hospitals owned by the Territorial Government. Public health services provided include communicable disease control, public health nursing, sanitary inspection, and tuberculosis case-finding. Technical advice on the public health program is given by a part time Chief Medical Health Officer resident at Edmonton.

Health programs for the non-native population in the Northwest Territories provide free treatment including transportation for tuberculosis patients, free hospital care for the mentally ill, free treatment for venereal disease cases, and free cancer diagnosis including transportation to the Edmonton Clinic. Indigent residents are eligible for complete medical, dental and optical services as well as general hospital care. There is a special program of free dental services for children under 17 years of age. To support the mission hospitals the Territorial Government pays per diem grants on behalf of all paying patients. Public health services are largely handled by Indian Health Service personnel, the Director of Indian Health Services serving as Chief Medical Health Officer of the Northwest Territories.

Section 2.—National Health—Special Phases

Included in this Section are special articles giving detailed information, statistical and analytical, on two important phases of national health in Canada—mental health and tuberculosis. Also included is an article of topical interest dealing with the production and distribution of poliomyelitis vaccine.

MENTAL HEALTH*

Today mental health is one of Canada's foremost public health problems. At the end of 1954 the 68,157 patients in Canadian mental institutions or under their care exceeded by approximately 53,000 those under the care of tuberculosis sanatoria and by nearly 10,000 those in public hospitals. The 1954 total represents a 93.2 p.c. increase over the 1932 figure and indicates that just over four persons out of every thousand are undergoing institutional care for mental illness. To this large volume of institutional care must be added the increasing amount of psychiatric treatment given by mental health clinics, outpatient departments of general hospitals and private physicians.

The provision of services for the care of psychiatric patients is a constitutional responsibility of the provincial governments. Each of the ten provinces administers its own program as laid down in its provincial legislative enactments; the Federal Government provides consultative and specialist services and assists in the financing of provincial mental health programs through the National Health Program.

* Prepared by B. R. Blishen, Chief, Institutions Section of the Health and Welfare Division, Dominion Bureau of Statistics, with the assistance of Dr. C. A. Roberts, Principal Medical Officer—Mental Health, Department of National Health and Welfare, Ottawa.

By far the greatest proportion of the resources used in promoting mental health in Canada today is expended on the care and treatment of the institutionalized patient although, with increasing public recognition of the dimensions of the problem of mental health, more emphasis is being placed on the prevention and early treatment of mental disorders. Through measures such as professionally organized and directed public education programs, mental health clinics and the utilization of many other community resources, progress is being made in changing public attitudes towards mental illness and in promoting opportunities for the development of mental health.

THE DIMENSIONS OF THE PROBLEM

Of the 68,157 patients on the books of mental institutions at the end of 1954, 62,323 were in hospital, 87 p.c. more than the 33,290 reported in hospital at the end of 1932. A more precise measure of the volume of patients actually resident in institutions is obtained from the rate per hundred thousand population, a figure that increased from 317.2 to 410.9 during the 1932-54 period. Of the patients institutionalized at the end of 1954, 56.0 p.c. were admitted on the certificate of one or more doctors in accordance with provincial law and 24.1 p.c. were voluntarily admitted on their own application. The changing public attitude towards the treatment of mental illness is reflected in the increasing proportion of voluntary admissions which rose to its present level from 6.7 p.c. ten years ago.

Some indication of the demand for institutional services is obtained from a study of first admissions and re-admissions to mental institutions. Compared with 1932, admissions more than trebled* by 1954 and the admission rate per hundred thousand population rose from 90.1 to 193.5 (Table 2). A significant feature of this rate is that, though it increased only 9.7 p.c. from 1932 to 1944, it showed a 90.0 p.c. advance from 1945 to 1954.

* Newfoundland data were first included in 1949; admissions in that Province have not exceeded 1.7 p.c. of the Canadian total in any year of their inclusion.

2.—Admissions to Mental Institutions, Patients in Residence and Bed Capacity 1932-54

Year	First Admissions		Re-admissions		Total Admissions		Patients Institutionalized at Dec. 31		Bed Capacity	
	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹	No.	Rate ¹
1932.....	7,628	72.7	1,828	17.4	9,456	90.1	33,290	317.2	32,951	313.9
1933.....	7,518	70.8	1,683	15.8	9,201	86.6	34,979	329.4	32,781	308.7
1934.....	8,096	75.0	1,965	18.3	10,061	93.8	36,571	340.9	34,918	325.5
1935.....	8,604	79.5	2,166	20.0	10,770	99.5	38,261	353.3	35,987	332.3
1936.....	9,002	82.3	2,121	19.4	11,123	101.7	39,833	364.3	37,379	341.9
1937.....	8,703	78.9	2,258	20.5	10,961	99.4	41,677	377.9	37,798	342.7
1938.....	8,581	77.1	2,384	21.4	10,965	98.5	42,687	383.3	38,671	347.3
1939.....	8,301	73.8	2,250	20.0	10,551	93.8	43,275	384.7	39,277	349.1
1940.....	7,736	68.1	2,087	18.4	9,823	86.4	44,163	388.6	39,441	347.1
1941.....	7,902	68.8	2,401	20.9	10,303	89.7	45,135	392.8	40,115	349.1
1942.....	8,410	72.3	2,282	19.6	10,692	91.9	45,937	394.7	41,762	358.9
1943.....	8,556	72.6	2,390	20.3	10,946	92.9	46,631	395.9	42,454	360.5
1944.....	9,170	76.9	2,629	22.0	11,799	98.9	47,279	396.3	42,500	356.3
1945.....	9,489	78.7	2,779	23.1	12,268	101.8	48,056	398.6	45,124	374.3
1946.....	9,752	79.5	3,144	25.6	12,896	105.1	49,163	400.7	45,443	370.4
1947.....	9,745	77.8	3,335	26.6	13,080	104.4	50,203	400.8	45,180	360.7
1948.....	10,685	83.5	3,499	27.3	14,184	110.8	51,050	398.9	45,682	356.9
1949.....	11,556	86.1	3,920	29.2	15,476	115.3	52,663	392.3	44,055	328.2
1950.....	11,912	87.0	4,499	32.9	16,411	119.9	53,957	394.2	45,081	329.3
1951.....	13,152	94.0	4,591	32.8	17,743	126.8	55,395	396.1	46,096	329.6
1952.....	15,056	104.5	5,901	41.0	20,957	145.5	57,621	400.0	48,893	339.4
1953.....	15,925	107.9	7,206	48.8	23,131	156.8	60,574	410.5	51,328	347.8
1954.....	20,627	136.0	8,724	57.5	29,351	193.5	62,323	410.9	54,346	358.3

¹ Per 100,000 population.

The increasing volume of cases requiring institutional care is reflected in the rate per hundred thousand population for first admissions and for re-admissions, although it is evident that the latter are increasing at a faster rate than the former. From 1932 to 1954 the rate for first admissions increased 87.0 p.c. while the rate for re-admissions increased 230.0 p.c. The postwar increase in both rates was very marked; first admissions increased 72.8 p.c. from 1945 to 1954 but advanced only 5.8 p.c. from 1932 to 1944; similarly the rate for re-admissions rose by 148.9 p.c. from 1945 to 1954 compared with 26.4 p.c. in the 1932-44 period (Table 2). (*See also* Chart opposite).

In comparison with the increasing admission rates, the proportion of deaths in mental institutions showed a substantial decline from 70.5 per hundred thousand in 1932 to 53.7 in 1954.

In the five year period 1950-54 there was no change in the four leading causes of first admission to mental institutions. The leading cause over this period was schizophrenia with a 1954 admission rate of 22.1 per hundred thousand population. This disorder is more prevalent in the age group 20 to 40 years, the highest rate of 60.2 being evident among males of 20 to 29 years. The second leading cause of first admission was senile and cerebral arteriosclerosis, having a rate of 13.2; the age group 70 or over showed the highest rate, 215.3, and in this age group the male rate of 227.7 exceeded the female rate of 202.7. The third-ranking cause of first admission was mental deficiency with a rate of 22.3 and the fourth was manic depressive psychosis with a rate of 17.8. Alcoholism without psychosis which ranked tenth as a cause of first admission in 1950 was fifth in 1952. Alcoholic psychosis however showed the opposite trend, moving from ninth in 1950 to eleventh in 1954. The increasing importance of alcoholism without psychosis as a cause of first admission provides evidence that alcoholism is being treated as an illness in itself and that patients receive treatment before becoming psychotic.

MENTAL HOSPITAL FACILITIES

In order to care for the increasing number of patients there has been a 65.0 p.c. expansion in the bed capacity of Canadian mental institutions since 1932. The past five years alone have seen a 20.5 p.c. increase over the 1950 total of 45,081 beds (Table 2). In 1954 mental hospitals with 42,592 beds had 78.4 p.c. of the psychiatric bed capacity, training schools 14.3 p.c., psychiatric hospitals 4.6 p.c. and psychiatric wards in general hospitals 1.0 p.c. The other 2.7 p.c. were in epilepsy hospitals and miscellaneous institutions. Although the capacity of psychiatric wards is relatively small at present, increasing emphasis is being placed on this type of psychiatric accommodation for short term cases.

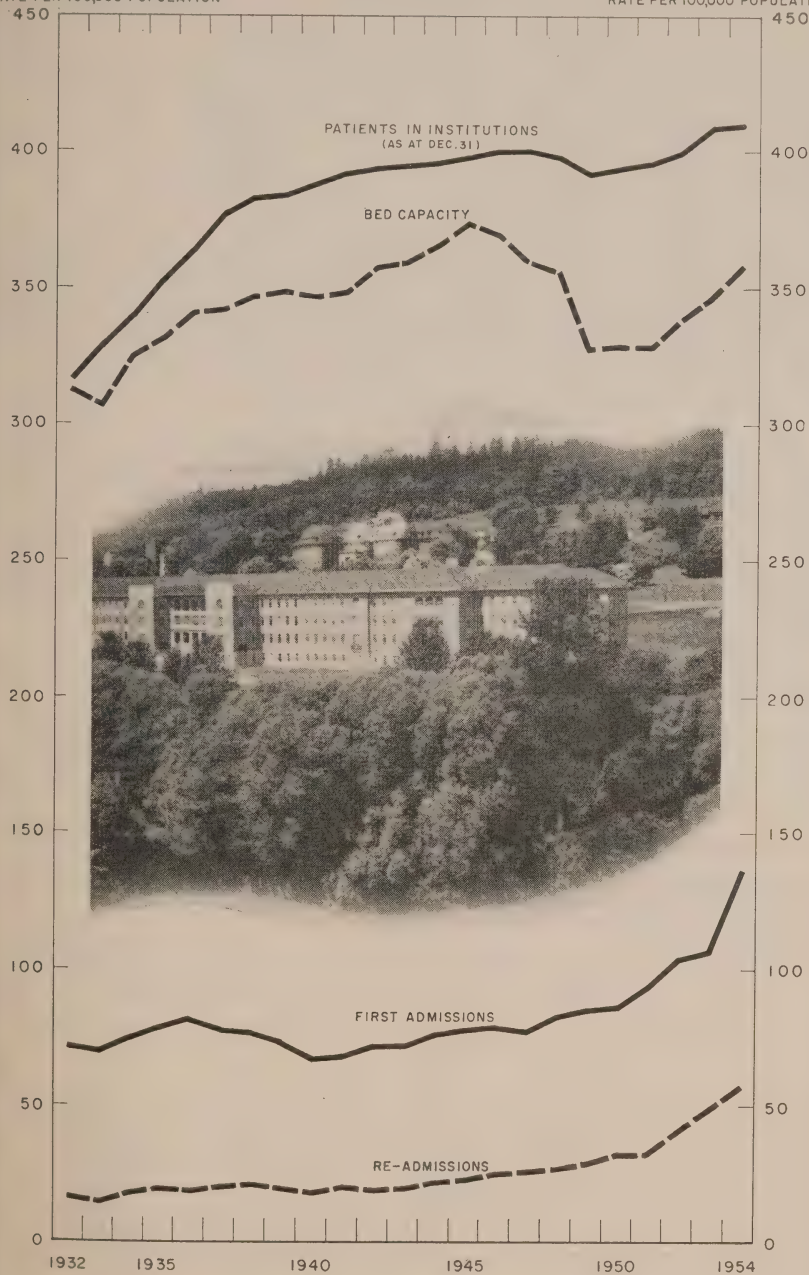
Despite the increase in number of psychiatric beds provided in various types of mental institutions, the Canadian population has increased at such a rate that the number of beds per hundred thousand population actually declined from an alltime high of 374.3 in 1945 to a record low of 328.2 in 1949. It is significant that the present rate of 358.3 is appreciably below the record set in 1945 (Table 2 and Chart opposite).

When the bed capacity rate is compared with the patient population rate it is obvious that the latter is greatly in excess of the former. The shortened length of stay however enables mental hospitals to care for more patients. In 1934 for example patients who were discharged had a median hospital stay of 5.4 months but in 1954 the median stay was 1.8 months. Thus in 1954 three patients could be treated in the bed required to accommodate one patient in 1934.

MENTAL INSTITUTIONS IN CANADA 1932-54

RATE PER 100,000 POPULATION

RATE PER 100,000 POPULATION



3.—Median Length of Stay of Patients Discharged from Mental Institutions 1932-54

(Excludes deaths)

Year	Length of Stay	Year	Length of Stay	Year	Length of Stay
	Mos.		Mos.		Mos.
1932.....	4.9	1940.....	4.9	1948.....	3.9
1933.....	5.2	1941.....	5.9	1949.....	3.6
1934.....	5.4	1942.....	6.3	1950.....	3.6
1935.....	5.0	1943.....	4.3	1951.....	2.4
1936.....	4.0	1944.....	3.8	1952.....	2.8
1937.....	4.2	1945.....	3.8	1953.....	2.1
1938.....	4.5	1946.....	3.6	1954.....	1.8
1939.....	4.4	1947.....	3.6		

It is reasonable to assume that this shorter median stay can be attributed in part to current developments in the treatment of psychiatric disorders such as shock therapy, narco-synthesis, psychosurgery and other types of therapy. It is obvious too that a patient today receives more care than he would have at any time in the past: this is shown by the size of the full time staff employed in mental institutions; at Dec. 31, 1954 the number per hundred patients was 31.2 as compared with 19.7 at the end of 1932.

COSTS OF INSTITUTIONAL CARE

The growing volume of institutional care for psychiatric disorders has inevitably been accompanied by heavier costs. In 1932 expenditures by mental hospitals totalled just over \$10,500,000, a figure that had risen to over \$57,200,000 in 1953 (Table 4). Compared with the expenditures of other types of health institutions, this 442 p.c. increase does not appear disproportionate; it was exceeded by an increase of 708 p.c. in the expenditures of public hospitals in the same period and by an increase of 527 p.c. in the expenditures of tuberculosis sanatoria. The total bill for 1953 for all three types of institution amounted to \$316,500,000 and of that amount public hospitals accounted for 71.7 p.c., tuberculosis sanatoria for 10.2 p.c., and mental hospitals for 18.1 p.c.

A useful figure in a historical comparison of hospital expenditures is the cost per patient-day. The figure for all types of health institutions rose from \$1.85 in 1932 to \$6.81 in 1953, an increase of 268 p.c. The cost per patient-day for public hospitals recorded the greatest increase of 279 p.c. from \$2.98 to \$11.29, that for tuberculosis sanatoria was 173 p.c. from \$2.29 to \$6.25 and that for mental hospitals 207 p.c. from 88 cents to \$2.70. In terms of 1935-39 dollars however the cost per patient-day in 1953 should be deflated by almost 50 p.c.

4.—Expenditure and Cost per Patient-Day for Mental Institutions compared with other Health Institutions 1932-53

NOTE.—Figures are for hospitals reporting finances in the year and category specified; excludes hospitals in the Northwest Territories and chronic hospitals.

Year	Mental Institutions			Public Hospitals		
	Hospitals	Expenditure ¹	Cost per Patient-Day ²	Hospitals	Expenditure ¹	Cost per Patient-Day ²
	No.	\$'000	\$	No.	\$'000	\$
1932.....	53	10,554	0.88	530	28,088	2.98 ³
1942.....	51	15,590	0.95	559	53,296	4.06
1943.....	52	16,428	0.98	583	59,320	4.08
1944.....	52	17,633	1.03	560	68,940	4.50
1945.....	51	18,487	1.08	522	74,059	4.74
1946.....	53	21,578	1.22	519	84,503	5.16
1947.....	55	26,102	1.46	588	106,792	6.14
1948.....	58	32,494	1.77	610	125,005	7.04
1949.....	59	36,364	1.94	660	146,867	7.85
1950.....	59	43,064	2.23	698	162,714	8.54
1951.....	60	47,412	2.40	713	190,912	9.60
1952.....	65	51,651	2.53	705	198,212	10.24
1953.....	72	57,229	2.70	720	227,036	11.29

For footnotes, see end of table.

4.—Expenditure and Cost per Patient-Day for Mental Institutions compared with other Health Institutions 1932-53—concluded

Year	Tuberculosis Sanatoria			Totals		
	Hospitals	Expenditure ¹	Cost per Patient-Day	Hospitals	Expenditure ¹	Cost per Patient-Day
	No.	\$'000	\$	No.	\$'000	\$
1932.....	34	5,133	2.29	617	43,775	1.85 ²
1942.....	39	8,115	2.60	649	77,001	2.35
1943.....	38	8,619	2.76	673	84,367	2.45
1944.....	37	8,935	3.02 ³	649	95,508	2.70
1945.....	40	10,189	3.17	613	102,735	2.85
1946.....	41	11,483	3.49	613	117,564	3.15
1947.....	42	14,223	4.27	685	147,117	3.81
1948.....	41	17,043	4.85	709	174,542	4.41
1949.....	44	19,166	4.98	763	202,397	4.90
1950.....	49	22,893	5.01	806	228,671	5.33
1951.....	55	26,815	5.78	828	265,139	5.99
1952.....	55	29,184	6.07	825	279,047	6.18
1953.....	59	32,204	6.25	851	316,469	6.81

¹ Excludes capital expenditure; includes outpatient expenditure. includes only days spent in institutions which reported finances.

² Includes patient-days of newborn; ³ Estimate.

An obvious factor contributing to the rise in hospital expenditure is the increase in population and the consequent increase in admissions. From 1932 to 1954 the population of Canada increased by 44.5 p.c. and the number of admissions to mental institutions rose by 210.4 p.c.

From 1948 a total of over \$37,000,000 has been made available to the provinces by the Federal Government for the expansion and improvement of preventive, diagnostic and treatment services in the field of mental health. Of this amount over \$24,000,000 or 65 p.c. was actually expended. Nearly half the expenditures were used to develop institutional services.

CLINIC SERVICES

Mental health clinics are playing an increasingly important role in combating mental disorders. They are operated by a variety of agencies, including provincial health departments, municipalities, mental institutions, general hospitals, school boards and voluntary organizations. There is no uniform pattern of operation—some are operated on a full time basis, some part time, and some travel from place to place.

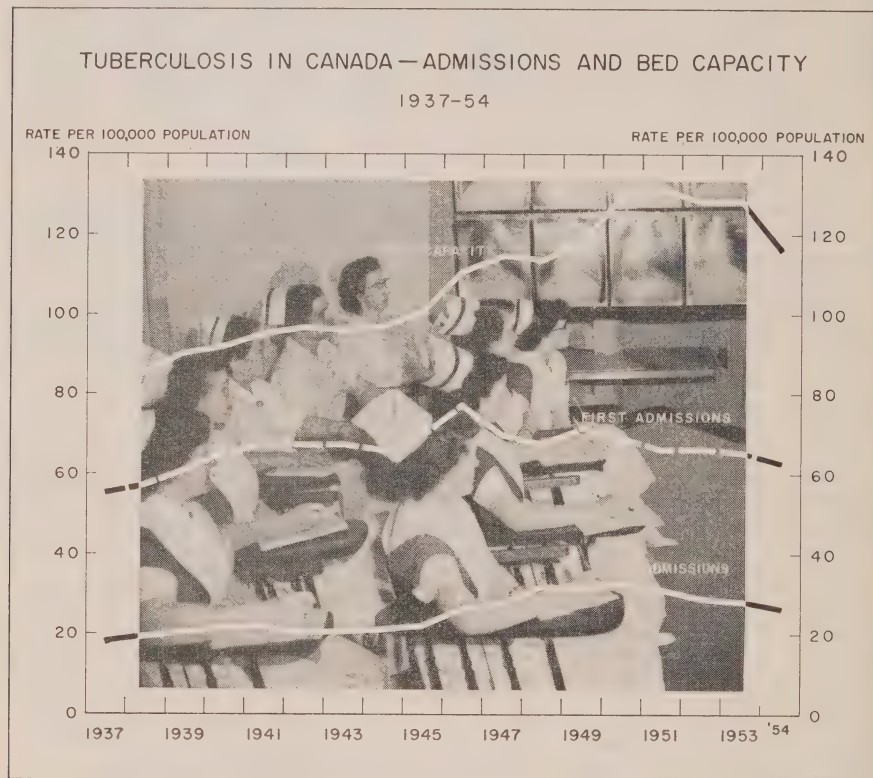
During 1954 a total of 88 mental health clinics were in operation in Canada. Statistics, available for 77 of the clinics, show that more than 208,000 interviews were held with 41,258 patients, an average of just over five interviews per patient and that more than two-thirds of the patients had not attended the same clinic during a previous year. Although comparative figures are not available for earlier years the preponderance of new patients indicates that these clinics are providing a needed service to the community. In 1954 they employed a staff of 759 persons, 26.6 p.c. of whom were nurses, 23.0 p.c. were psychiatrists, 17.0 p.c. were social workers and 14.0 p.c. were psychologists.

It is quite apparent that statistics alone cannot give a full picture of the developments taking place in the field of mental health, that the quality of services available and their relationship to those needing treatment is of equal importance in any study of the problem. Each province attempts to meet its need in its own way but across Canada there is general evidence of increasing emphasis being placed on research, on improved methods of treatment and on the training of personnel, the ultimate goal of which is to mitigate the prevalence of mental illness and thereby to decrease the demand for hospital beds and facilities.

TUBERCULOSIS*

During the past two decades great progress has been made in the fight against tuberculosis in Canada but though improved treatment methods, extended facilities and strengthened control measures have produced significant results the disease still remains a major public health problem.

At the end of 1954 one hundred out of every hundred thousand Canadians were patients in tuberculosis sanatoria or units of general hospitals. In 1938 the rate stood at 78—the lowest on record—but increased each year until 1952 when it reached a peak of 111. The 1954 rate, the lowest in seven years, also reflects the reversal of a rising trend in the absolute number of patients in tuberculosis hospitals. The trend began in 1938 and the 1954 total of 15,220, which was 5.2 p.c. lower than that for the preceding year, was the first decrease ever reported.



ADMISSIONS TO SANATORIA

During the period 1938-54 total tuberculous and non-tuberculous admissions to Canadian tuberculosis institutions increased 66.2 p.c.; first admissions increased 59.2 p.c. and re-admissions increased 88.6 p.c. The increases in the actual number of admissions are partly accounted for by the 36.4 p.c. increase in the Canadian population during the same period but, when the numbers are converted into rates and the effect of the population increase thereby eliminated, the increase in the rate of admissions is also found to be significant. The total rate for tuberculous and non-tuberculous admissions rose from

* Prepared by B. R. Blishen, Chief, Institutions Section of the Health and Welfare Division, Dominion Bureau of Statistics.

85.8 per hundred thousand population in 1938 to 113.0 in 1946 and then declined to 104.6 in 1954 (*see* Table 5). The 1954 rate was the lowest since 1945 but was 21.9 p.c. above the rate for 1938.

The rates for tuberculous admissions alone increased more moderately during the 1938-54 period, from 77.2 per hundred thousand population to 89.4. The 1954 rate was the lowest recorded since 1944 and was the fifth consecutive annual decrease. Non-tuberculous admissions recorded their lowest rate of 6.8 per hundred thousand population in 1942 and advanced to an alltime high of 15.2 in 1954. The 2,312 patients producing the 1954 rate represent nearly 14.5 p.c. of all admissions to tuberculosis institutions in that year, the highest proportion ever recorded (*see* Table 5).

When studied separately, the rates per hundred thousand population for tuberculous first admissions and for tuberculous re-admissions show important parallels (*see* Chart opposite). The first admission rate rose from 55.5 in 1937 to 77.2 in 1946 and then declined somewhat erratically to a low of 62.7 in 1954, the lowest since 1939 and less than 13 p.c. higher than the 1937 rate. Similarly the tuberculous re-admission rate increased from a low of 19.5 in 1938 to an alltime high of 32.8 in 1950 and declined sharply to 26.7 in 1954 but represented nevertheless a 37 p.c. increase over 1938. The importance of these decreasing rates is evident when the population increase of 36 p.c. during this period is borne in mind.

5.—Tuberculous Admissions, Notifications and Mortality 1937-54

(Rate per 100,000 Population)

Year	Tuberculous First Admissions		Tuberculous Re-admissions		Total Tuberculous Admissions		Non-tuberculous Admissions		Total Admissions	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1937 ¹	5,700	55.5	1,876	18.3	7,576	73.8	..	..	..	..
1938.....	6,429	57.5	2,166	19.5	8,595	77.2	964	8.7	9,559	85.8
1939.....	6,859	61.0	2,325	20.7	9,184	81.6	1,028	9.1	10,212	90.8
1940.....	7,444	65.5	2,517	22.1	9,961	87.7	912	8.0	10,873	95.7
1941.....	7,754	67.5	2,547	22.2	10,301	89.7	868	7.6	11,169	97.2
1942.....	7,816	67.2	2,392	20.6	10,208	87.7	796	6.8	11,004	94.6
1943.....	7,943	67.4	2,447	20.8	10,390	88.2	900	7.6	11,290	95.9
1944.....	7,878	66.0	2,553	21.4	10,431	87.4	874	7.3	11,305	94.8
1945.....	8,403	69.7	2,685	22.3	11,088	92.0	1,023	8.5	12,111	100.5
1946.....	9,476	77.2	3,264	26.6	12,740	103.8	1,117	9.1	13,857	113.0
1947.....	8,753	69.9	3,504	28.0	12,257	97.8	888	7.1	13,145	104.9
1948.....	8,063	67.7	4,139	32.3	12,802	100.0	970	7.6	13,772	107.6
1949.....	9,340	71.4	4,146	31.7	13,486	103.1	932	7.1	14,418	110.2
1950.....	9,440	69.0	4,484	32.8	13,924	101.7	1,126	8.2	15,050	110.0
1951.....	9,257	66.2	4,415	31.6	13,672	97.8	1,227	8.8	14,899	106.5
1952.....	9,580	66.4	4,224	29.3	13,804	95.7	1,456	10.1	15,260	105.8
1953.....	9,661	65.4	4,197	28.4	13,858	93.8	1,661	11.2	15,519	105.1
1954.....	9,523	62.7	4,056	26.7	13,579	89.4	2,312	15.2	15,891	104.6

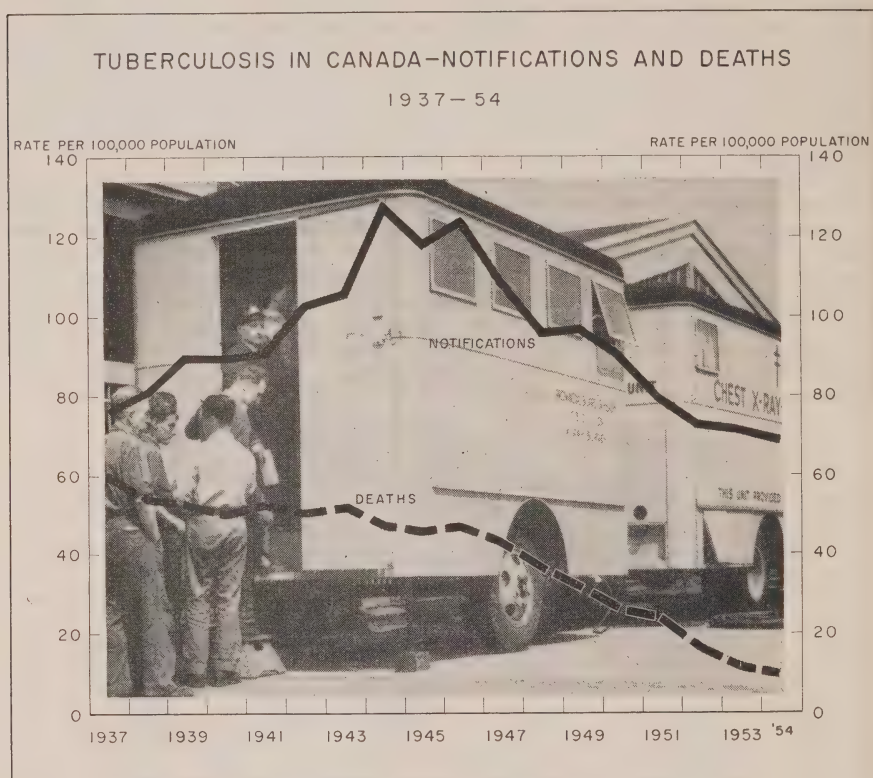
¹ Excludes British Columbia.

INCIDENCE AND MORTALITY

The decrease in the tuberculosis notification rate has been comparatively slow, dropping from a 1944 high of 128.2 per hundred thousand population to 69.1 in 1954 (*see* Table 6 and Chart, p. 256). This slow decline in notifications plus the increasing rate of non-tuberculous admissions to tuberculosis institutions has had the effect of slowing up the decline in total admission rates.

The 1937-54 period witnessed a phenomenal decrease in the tuberculosis death rate. That rate stood at 10.3 per hundred thousand population in 1954 compared with 60.4 in 1937 (*see* Table 6 and Chart, p. 256), and in the ten year period 1945-54 alone dropped 71.8 p.c. A corresponding trend took place in the number of tuberculosis deaths occurring in tuberculosis institutions, the decrease amounting to 62.4 p.c. in the same period.

Expressed as a rate per thousand patients under care at Dec. 31 the deaths of tuberculous patients in tuberculosis institutions declined radically from 227.5 in 1943 to 53.0 in 1954.



Year	Notifications		Mortality		Year	Notifications		Mortality	
	No.	Rate	No.	Rate		No.	Rate	No.	Rate
1937 ¹	8,472	76.8	6,669	60.5	1946.....	15,263	124.4	5,821	47.4
1938.....	9,090	81.6	6,126	55.0	1947.....	13,739	109.7	5,449	43.5
1939.....	10,182	90.5	5,977	53.1	1948.....	12,363	96.6	4,773	37.3
1940.....	10,226	90.0	5,789	50.9	1949.....	13,097	97.6	4,295	32.0
1941.....	10,475	91.2	6,072	52.8	1950.....	12,429	90.8	3,583	26.2
1942.....	12,015	103.2	5,980	51.4	1951.....	11,152	79.7	3,417	24.4
1943.....	12,520	106.3	6,168	52.4	1952.....	10,506	72.9	2,457	17.1
1944.....	15,292	128.2	5,724	48.0	1953.....	10,572	71.5	1,810	12.3
1945.....	14,328	118.9	5,546	46.0	1954.....	10,474 ¹	69.1	1,563	10.3

¹ Excludes British Columbia.

CONTROL MEASURES

The postwar declines in the first admission and re-admission rates for tuberculosis, in notifications and in tuberculosis mortality have been matched by corresponding increases in tuberculosis control measures. The bed complement of tuberculosis institutions increased from 85.2 per hundred thousand population in 1938 to 116.5 in 1954.

The increase from 1946 to 1954 in actual number of beds set up was 4,089 or 30.1 p.c. (see Table 7, below). The percentage occupancy of these beds varied erratically during the 1938-54 period but the 1954 figure of 92.2 was the highest since 1941. A comparison of the tuberculous admission rate per hundred thousand population with a similar rate for bed complement shows that whereas the former began declining in 1950 and has dropped steadily since then, the latter continued to climb until 1951 when it reached an alltime high of 131.5 and exceeded the tuberculous admission rate by almost 34 per hundred thousand population. In 1954 beds exceeded tuberculous admissions by just over 27 per hundred thousand.

There is statistical evidence that beds for tuberculous patients are being occupied for longer periods in recent years (see Table 7) and in the period 1944-54 the average stay of tuberculous patients who were finally discharged rose by slightly more than 50 days. An even more significant increase was evident in the average stay of tuberculous patients who died in tuberculosis institutions; in the same period their average stay increased by 150 days. It should be noted that the lengthening stays of tuberculous discharges and of those who died increased 20.3 p.c. and 43.5 p.c. respectively since 1944 and were most pronounced since 1950. From that year to 1954 the average stay of tuberculous discharges rose 16.4 p.c. and of tuberculous deaths 30.6 p.c.

The increases in average stay of discharges and deaths have followed the introduction of the antibiotics streptomycin, PAS, and isoniazid. The use of streptomycin was first reported in 1947 when 0.01 p.c. of the patients received this treatment; in 1954 the figure stood at 80.7 p.c. In 1949, PAS was first reported and 0.1 p.c. of the patients received it; in 1954 the percentage rose to 74.0. Isoniazid was first reported in 1952 as being given to 4.5 p.c. of the tuberculous patients; two years later the figure had risen to 49.7 p.c.

In recent years there has been greatly increased activity in case-finding programs. From 1944 to 1954 an increase of 353.2 p.c. occurred in the number of examinations made by X-ray surveys although small declines were reported for 1952 and 1953. In terms of examinations per thousand population, the rate of 44.7 in 1944 rose to 145.8 in 1951, declined to 130.7 in 1953 and rose again to 134.4 in 1954. In the same period a 70.4 p.c. increase was reported in the number of cases of tuberculosis newly diagnosed by clinics and dispensaries.

The treatment of tuberculous patients and the services and facilities provided have required increasing staff and increasing expenditures. The increase in sanatoria personnel during the 1938-54 period amounted to 190.5 p.c. and number of personnel per 100 patients rose from 42.2 to 78.4. Expenditure in non-federal sanatoria increased 464.9 p.c. from \$5,700,000 in 1938 to \$32,200,000 in 1953, while the cost per patient-day increased by 171.7 p.c. from \$2.30 to \$6.25 (see Table 4, p. 253).

7. Bed Complement, Occupancy and Stay of Tuberculous Discharges, and Deaths in Tuberculosis Institutions 1938-54

Year	Bed Complement	Percentage Occupancy	Average Days' Stay of—	
			Discharges	Deaths
	No.	p.c.	No.	No.
1938	8,825	91.0	..	..
1939	10,160	92.3	..	..
1940	10,459	91.9	..	..
1941	10,911	92.7	..	..
1942	11,245	91.6	..	..
1943	11,319	91.9	..	..
1944	11,576	90.2	320.5	346.4
1945	12,105	90.2	316.4	359.3
1946	13,594	86.7	286.6	344.8
1947	14,355	84.5	298.2	355.9
1948	14,512	91.3	289.8	347.8
1949	15,825	91.3	311.8	389.9
1950	17,790	86.9	331.3	380.7
1951	18,407	89.1	300.9	459.3
1952	18,501	90.8	336.7	412.9
1953	18,977	91.5	361.5	425.9
1954	17,683	92.2	371.9	497.1

POLIOMYELITIS VACCINE*

One of the most dramatic health developments in Canada during 1954-55 was the commencement of large scale immunization with Salk vaccine against poliomyelitis.

Analysis of poliomyelitis incidence in Canada over a number of years shows the increasing occurrence of this disease as a cause of disability and death. In 1953 more cases and more deaths were reported than in any previous year, a total of 8,736 cases, 4,963 with some degree of paralysis, and 481 deaths. The average annual attack rate reported over the five years ended in 1929 was approximately five cases per 100,000. This figure rose to eight for the five years ended in 1934, to 14 for the five year period ended in 1949 and to 26 for that ended in 1954. Since 1949 when paralytic and non-paralytic cases were first reported separately the number of cases with paralysis have been about half the reported total and the death rate has not changed significantly in proportion to that for total cases. There has been however an increasing tendency for older age groups to be attacked. In 1926, 70 p.c. of deaths occurred in children under fifteen. By 1953 this proportion had dropped to 30 p.c. In 1953, 31.6 p.c. of reported cases, 31.4 p.c. of those with paralysis and 60.9 p.c. of deaths occurred in persons over age twenty.

The increasing seriousness of the problem has been under consideration at all levels of government and funds from the National Health Program have been extensively used for the development of facilities for treatment; more than a million and a half dollars have been utilized for this purpose since the commencement of the Program in 1948.

Immediately after the 1952 announcement of results obtained in field trials with gamma globulin for protection against paralytic poliomyelitis, steps were taken to assure supplies of this blood fraction for use in 1953. Reserve stocks of wartime blood serum, collected by the Red Cross and held by the Connaught Laboratories at Toronto, were used with assistance from the federal grants to make approximately 30,000 0.5-cc. doses available for use in the 1953 epidemic. A further 100,000 doses were prepared from blood collected by the Red Cross for use in 1954. Over \$1,000,000 was utilized through the National Health Program for this purpose.

DEVELOPMENT AND TESTS

In 1952 Dr. Jonas E. Salk described his method of preparing experimental poliomyelitis vaccine by employing formaldehyde to destroy the disease producing ability of the virus. In this discovery Canadian scientists had made an important contribution as the culture fluid used in the manufacture of the vaccine for Dr. Salk's first trial was developed in the Connaught Laboratories. This chemical medium, known as Mixture 199, which was a by product of cancer research, does not contain organic materials that might cause allergies. It was found suitable for the growing of polio virus at the Hospital for Sick Children in Toronto in 1952.

In 1953, at the request of the National Foundation for Infantile Paralysis, workers at the Connaught Laboratory developed a method for mass production of all three types of polio viruses by the use of minced monkey-kidney tissue immersed in Mixture 199. During late 1953 and early 1954 large amounts of virus culture were shipped to the United States for processing into vaccine.

* Prepared in the Research Division, Department of National Health and Welfare, Ottawa.

On the invitation of the National Foundation for Infantile Paralysis in the United States consideration was given to Canadian participation in the United States field trials held in 1954* in which about 1,830,000 children were involved. Three groups of children in the Provinces of Nova Scotia, Manitoba and Alberta were included in the trials.

The question of production of vaccine in Canada was considered at the 65th meeting of the Dominion Council of Health in May 1954. The immediate need, should the United States trials prove successful, was estimated at that time and provincial deputy ministers of health were provided with data on costs (\$1.50 per triple dose) and quantities of the vaccine which might be available to each.

Planning at that time and subsequently was complicated by uncertainty as to the results of the field trials but close attention to the situation in the United States generally indicated that at least sufficient success would be attained to justify extensive production of vaccine. In discussions with the Provinces during the summer of 1954 it was agreed that vaccine produced for use in 1955 and supplied free to all children would be financed by the Federal Government and the Provinces on a fifty-fifty basis through the use of funds from the National Health Program. Between June and November all provinces submitted projects under the program. Production of sufficient vaccine for 500,000 children in 1955 was commenced at the Connaught Laboratories and discussions began with the Institute of Microbiology and Hygiene where the building of special accommodation was commenced for this purpose.

PRODUCTION AND DISTRIBUTION

At the 66th meeting of the Dominion Council in October 1954 the United States evaluation trial was reviewed in detail. The Director of the Connaught Laboratories reported that no known complications or serious reaction had resulted from use of the vaccine among a quarter of a million children, that significantly high antibody titres had been encountered and that no adverse reaction had been ascertained from the introduction of *Rhesus* monkey tissue. He pointed out however that there were many serious problems associated with the use of the vaccine which would require extensive research to solve.

After consideration of this report the Council endorsed the decision to proceed with preparations for the distribution of vaccine on an experimental basis and reached agreement as to the circumstances under which it might be used. The following statement of principles was adopted by the Council at that time:—

- (1) That priority in the receipt of the vaccine be reserved for children in the five and six year age groups, it being noted that attack rates at these ages are high and that infection in these children constitutes a threat to older children. The number of children in kindergarten, primary and grade 1 of Canadian schools is estimated to be approximately 500,000 in 1955. In addition, the implied obligation to give vaccine to children who received the "control" material in the vaccine trials in three provinces in 1954 be recognized.
- (2) That, in the event further vaccine should be available after meeting requirements of (1) above, the four year old group should receive next priority.
- (3) That, while the desirability of recording the incidence of paralysis in vaccinated and unvaccinated children in these age groups should be noted, the administration of the vaccine does not need to be accompanied by the administration of a "control" material or the taking of blood specimens for antibody estimation.
- (4) That, since it was to be expected the vaccine would be available for distribution by early March, it would be highly desirable to complete the course of injections of the vaccine not later than the end of April, if the necessary permission for distribution is obtained from the Federal authority.
- (5) That, it should be understood that pending publication of results of the current Poliomyelitis Vaccine Evaluation study, the use of the vaccine remains on an experimental basis and should not be offered to the public as a proven immunizing measure.

* In the United States trials about 440,000 children received one or more injections of vaccine and about 210,000 a placebo substance consisting of the nutrient material in which the virus was grown. Over 1,100,000 children in 44 States served as observed controls. About 40,000 children from these three groups gave one or more and generally three blood samples which were tested for poliomyelitis antibodies in 27 laboratories in the United States and Canada.

Arrangements were made at the end of 1954 for all polio vaccine produced to be delivered to the Laboratory of Hygiene of the Department of National Health and Welfare for testing and forwarding to the Provinces. Experience gained the previous year in the production and distribution of gamma globulin proved a useful guide in making these administrative arrangements.

Testing of the vaccine followed the pattern laid down in the Minimum Standards issued by the National Institutes of Health in the United States and involved the use of 18 monkeys for each batch, 12 *Rhesus* being injected intracerebrally with 0.5 cc. on each side, and six *Cynomolgus* with 10 cc. intramuscularly. Tissue cultures, guinea pigs, rabbits, mice and egg embryos were used for additional tests.

On Apr. 12, 1955 the Deputy Minister of National Health attended the meeting at Ann Arbor, Michigan, at which the results of the 1954 field trials were announced and arrangements for release of the vaccine were commenced immediately the results of the trials were known. Approximately 620,000 triple doses had already been produced. Requests had been received from the Provinces for sufficient material for 486,000 triple doses and the excess was divided among them. Through adoption of the revised dosage schedule suggested by Dr. Salk and postponement of the third dose it was possible to increase by 50 p.c. the number of children who might receive the vaccine in 1955.

In April American firms were approached to ascertain what amount of vaccine might be shipped to Canada prior to July 1 and two American firms were licensed to release vaccine in Canada. However, though Canada was not included in the embargo placed by the United States on export of the vaccine, only about 14,000 3-cc. ampoules were actually brought into Canada.

Although distribution programs in the provinces varied slightly there was general adherence to the principles suggested by the Dominion Council; special provision was made for inoculation of Indian and Eskimo children and for dependants of Canadians serving abroad.

Close attention was paid to the difficulties that arose in the United States following the commencement of the program and testing methods were kept under constant review. Fortunately no similar difficulties arose in Canada before the advent of the polio season made it appear advisable to suspend the program for the summer months, by which time about 800,000 Canadian children had received inoculations.

Section 3.—Health Statistics*

Compared with the well established and highly standardized vital and institutional statistics, other national health statistics are still in an early developmental stage in Canada as well as in most other countries. Only in recent years, with recognition of the increase in life span and the impact of the ageing of the population, has it become generally understood that mortality and communicable disease statistics can no longer serve as the sole yardstick by which to measure a nation's health. Though many infectious diseases have been effectively controlled, other diseases, particularly those characteristic of an older population, cause much illness and disability, requiring a large volume of health services, without becoming immediately fatal and thus without being adequately reflected in mortality statistics.

A good deal of valuable statistical material exists in some provinces regarding certain aspects of their health services. Nationally the only source available so far on general illness, health services, and personal expenditure for health care is the Canadian Sicknes

* Prepared in the Public Health Section of the Health and Welfare Division, Dominion Bureau of Statistics.

Survey 1950-51. Statistics on causes of death are shown in the Chapter on Vital Statistics, pp. 215-216, and statistics of hospitals, mental and tuberculosis institutions are dealt with in Section 4 of this Chapter. Other health statistics collected nationally deal with notifiable diseases, illness among about 100,000 federal Civil Servants, and home nursing services. Following are some details on the Canadian Sickness Survey and notifiable disease reporting.

Subsection 1.—Canadian Sickness Survey

The Canadian Sickness Survey 1950-51.—This survey, carried out during a 12 month period commencing in the autumn of 1950, sought to give estimates of the incidence and prevalence of illness and accidents of all kinds, the amount of medical, nursing and other health care received, and the volume of family expenditures for the various types of health services. The information on which the estimates are based was obtained from a nationwide sample of approximately 10,000 households. The survey was planned and organized jointly by the federal Department of National Health and Welfare (who initiated the program), and the Dominion Bureau of Statistics, in consultation with the ten provinces, whose health departments carried out the survey under the federal National Health Program. A brief outline of the scope and methods of the survey was given in the 1955 Year Book together with some of the results. Study of the data still continues.

During the year 1955 further results of the survey became available, shedding more light on the pattern of sickness among Canadians and of the health care they receive. The results lend new emphasis to the health problems of the older age groups—which are also demonstrated by the data obtained from the study of illness in the Civil Service and from statistics on home nursing services—and indicate the relatively high amount of illness and demand for health services at the other extreme of the age scale: the children under 15 years of age.

Estimated Incidence and Prevalence of Illness in Canada During the Survey Year.—In regard to the severity of illness, the following tables distinguish between any illness, whether disabling or non-disabling, and disabling illness which prevents the patient continuing his usual activity, e.g. working, going to school, homemaking, etc. Incidence is measured by the number of new illnesses commencing during the survey year and the persons reporting these illnesses. Prevalence, on the other hand, measures the number of illnesses in progress at the exact time the survey began and the number of persons reporting illness at that time. It follows that though incidence does not reflect the duration of illness, illnesses of longer duration will affect the prevalence.

INCIDENCE OF ILLNESS BY AGE GROUP AND SEX 1950-51

Age Group	Estimated P.C. of Persons Reporting One or More—						Average Number of Illnesses Reported per 1,000 Persons—					
	New Illnesses			Disabling New Illnesses			New Illnesses			Disabling New Illnesses		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
ALL AGES.....	74.9	80.3	77.6	53.6	58.4	56.0	2,050	2,409	2,228	995	1,105	1,049
Under 15.....	86.9	87.0	86.9	68.8	69.1	69.0	2,988	2,962	2,975	1,543	1,530	1,537
15-24.....	67.9	74.6	71.3	48.0	53.4	53.3	1,537	1,962	1,753	800	995	899
25-44.....	71.9	82.4	77.2	47.6	57.1	52.4	1,790	2,493	2,145	756	988	873
45-64.....	67.9	74.4	71.1	45.7	46.6	46.2	1,518	1,941	1,723	717	783	749
65 or over.....	67.9	71.6	69.7	44.3	48.0	46.1	1,517	1,889	1,701	721	842	781

PREVALENCE OF ILLNESS BY AGE GROUP AND SEX AT COMMENCEMENT OF SURVEY 1950-51

Age Group	Estimated P.C. of Persons Reporting—						Average Number of Illnesses Reported per 1,000 Persons—								
	Any Illness(es)			Any Disabling Illness(es)			All Illnesses			All Disabling Illnesses			M.	F.	T.
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.			
ALL AGES.....	7.3	9.3	8.3	2.7	3.1	2.9	86	111	98	32	36	34			
Under 15.....	4.6	4.7	4.6	1.7	1.9	1.8	48	51	50	18	21	20			
15-24.....	4.5	4.9	4.7				49	52	50						
25-44.....	6.9	10.9	8.9				78	127	102				22	35	28
45-64.....	10.9	13.5	12.1				127	168	147				50	52	51
65 or over.....	16.7	20.5	18.6	7.0	7.0	7.0	244	269	256	110	90	100			

Permanent Physical Disabilities.—Each case of permanent disability disclosed by the Sickness Survey was assigned to one of four groups according to the extent to which performance of usual functions was affected. These groups, which include chronic disabilities, deformities and amputations, are as follows: (1) minor disabilities which did not interfere too much with day to day functioning of employment; (2) moderate disabilities having only a localized effect on conduct of daily employment; (3) severe disabilities which interfered considerably with work but as a result of which the individual was not totally disabled; (4) total disabilities which confined the individual to bed or where assistance was required in carrying out the functions of everyday living. The following statement shows the age distribution of the estimated number of permanently physically disabled persons for all severity groups and for the severely or totally disabled. It should be noted that the Survey, by design, excluded persons residing in institutions.

Age Group	All Severity Groups		Severely or Totally Disabled	
	No.	p.c.	No.	p.c.
ALL AGES.....	957,000	100	423,000	100
Under 25.....	139,000	15	37,000	9
25-44.....	238,000	25	88,000	21
45-64.....	317,000	33	136,000	32
65 or over.....	263,000	27	162,000	38

Six types of health conditions were responsible for 58 p.c. of all primary disabilities reported: heart disease, impairment resulting from accidents, arthritis and rheumatism, deafness, blindness, disorder of the nervous system.

Volume of Health Care.—The estimated percentage of persons receiving certain health services for the various age groups is given in the two tabular statements on p. 263 together with the average amount of services per 1,000 population. Physicians' calls include doctors' home and office calls and outpatient clinic visits by the patient but not doctors' calls at the hospital. School clinic visits and treatments are excluded. Examinations for spectacles exclude those by a physician, which are included in physicians' calls.

More than one-half the population—53.1 p.c.—reported some health care during the 1950-51 Sickness Survey year. Of those reporting, 57.7 p.c. were females, and in the 25-44 year age group the reporting percentage for females was 65.2 p.c. For males, the smallest proportion for all combined categories of health care was found in the 15-24 age group with 42.6 p.c. and the largest proportion in the "under 15" group, who accounted for 52.5 p.c. of the health care reported.

ESTIMATED NUMBER OF PERSONS REPORTING HEALTH CARE AS PERCENTAGE OF TOTAL PERSONS IN EACH AGE GROUP 1950-51

Age Group	Population	Physicians' Care	Inpatient Hospital Care	Medical Care	Home Nursing Care	Operations	Dental Care	Examinations for Spectacles	Miscellaneous Health Care	Any Health Care	No Health Care
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
ALL AGES.....	100.0	43.2	10.2	44.7	1.1	3.7	14.7	3.3	1.6	53.1	46.9
Under 15.....	100.0	42.5	10.4 ¹	44.6	0.6	4.3	13.7	2.0	..	52.3	47.7
15-24.....	100.0	35.3	9.2	36.6	..	2.9	20.9	3.6	..	49.1	50.9
25-44.....	100.0	45.7	11.2	46.8	1.5	3.7	18.0	3.3	2.5	56.3	43.7
45-64.....	100.0	44.3	9.4	45.5	1.3	{4.0	10.6	5.4	2.3	52.3	47.7
65 or over.....	100.0	49.6	9.8	50.8	..	..	4.0	..	..	54.1	45.9

¹ Includes newborn.

ESTIMATED AVERAGE NUMBER OF SERVICES REPORTED PER 1,000 PERSONS IN EACH AGE GROUP 1950-51

Age Group	Physicians' Calls and Clinic Visits	Days in Hospital	Visits of Graduate Nurse	Operations	Dental Visits	Examinations for Spectacles
	No.	No.	No.	No.	No.	No.
ALL AGES.....	1,786	1,728	73	40	323	40
Under 15.....	1,210	1,099 ¹	20	45	268	25
15-24.....	1,353	1,169	..	29	530	45
25-44.....	2,044	1,716	68	38	396	38
45-64.....	2,296	2,417	173	{44	230	62
65 or over.....	2,751	3,737	..	{..	77	..

¹ Includes newborn.

Estimates were also prepared showing the average amount of various health services received by persons in different income groups. The following statement presents a summary of these findings:—

ESTIMATED AVERAGE NUMBER OF UNITS OF VARIOUS CLASSES OF HEALTH CARE PER 1,000 PERSONS BY SELECTED INCOME GROUPS 1950-51

Units Reported	Total	Actual Estimates—			
		Low Income	Medium Income	High Income—Lower	Upper
Physicians' services—					
Doctors' office calls.....	1,131	1,023	1,151	1,159	1,232
Doctors' home calls.....	512	569	442	528	692
Doctors' office and home calls.....	1,643	1,592	1,593	1,687	1,923
Clinic visits.....	143	129	152	150	116
Doctors' calls and clinic visits.....	1,786	1,720	1,744	1,836	2,039
Days of inpatient hospital care.....	1,728	2,692	1,628	1,136	1,332
Home nursing services—					
Visits of graduate nursing care.....	73	156	48	59	
Days of non-graduate nursing care.....	77	161	77	22	
Operations.....	40	34	38	44	52
Dental visits.....	323	143	305	435	535
Examinations for spectacles.....	40	34	42	41	
Miscellaneous treatments.....	135	109	128	162	

Units Reported	Total	Standardized Estimates—			
		Low Income	Medium Income	High Income—Lower	Upper
Physicians' services—					
Doctors' office calls.....	1,138	967	1,187	1,152	1,271
Doctors' home calls.....	502	400	459	559	787
Doctors' office and home calls.....	1,639	1,367	1,647	1,710	2,057
Clinic visits.....	144	117	164	141	115
Doctors' calls and clinic visits.....	1,784	1,484	1,811	1,852	2,172
Days of inpatient hospital care.....	1,806	2,566	1,715	1,146	2,132
Home nursing services—					
Visits of graduate nursing care.....	63	82	53	66	
Days of non-graduate nursing care.....	74	95	96	28	
Operations.....	39	34	37	45	53
Dental visits.....	321	160	302	416	542
Examinations for spectacles.....	40	32	44	41	
Miscellaneous treatments.....	137	78	150	155	

Other Selected Data Showing the Impact of Age on Health.—A continuing study of medically certified illness of about 100,000 employees of the Federal Civil Service for the fiscal year ending Mar. 31, 1954 shows the following average duration of illness by the patient's age:

AVERAGE DURATION OF ILLNESS BY AGE GROUP

Age Group	Number of Days Duration
Under 35.....	11.2
35-49.....	14.7
50 and over.....	21.3

The following statement, based on the same study of illness in the Civil Service, shows the percentage of days of illness accounted for by a few selected causes in various age groups:—

PERCENTAGE OF DAYS OF ILLNESS BY SELECTED CAUSES AND BY AGE GROUP

<i>Cause</i>	<i>Age Group—</i>		
	<i>Under 35</i>	<i>35-49</i>	<i>50 or over</i>
	<i>p. c.</i>	<i>p. c.</i>	<i>p. c.</i>
ALL CAUSES.....	100.0	100.0	100.0
Infective and parasitic diseases.....	13.5	9.2	4.3
Diseases of the respiratory system.....	25.1	22.2	18.4
Neoplasms.....	2.2	4.1	4.3
Diseases of the circulatory system.....	3.6	6.7	17.8

The following statements are based on the study of visiting home nursing services of the Victorian Order of Nurses for Canada, 1954.

PERCENTAGE DISTRIBUTION OF NURSING SERVICES OF MEDICAL CASES BY AGE GROUP AND LENGTH OF NURSING SERVICE

<i>Age Group</i>	<i>Total</i>	<i>Length of Nursing Service—</i>			
		<i>1-7 Days</i>	<i>8-30 Days</i>	<i>1 Month and Under 3 Months</i>	<i>3 Months or Over</i>
	<i>p. c.</i>	<i>p. c.</i>	<i>p. c.</i>	<i>p. c.</i>	<i>p. c.</i>
Under 15.....	100.0	67.6	22.7	6.3	3.4
15-24.....	100.0	45.5	23.5	17.4	13.6
25-44.....	100.0	41.2	25.9	17.7	15.2
45-64.....	100.0	39.7	24.6	14.4	21.3
65-74.....	100.0	35.2	23.4	15.5	25.9
75 or over.....	100.0	35.2	22.6	14.4	27.8

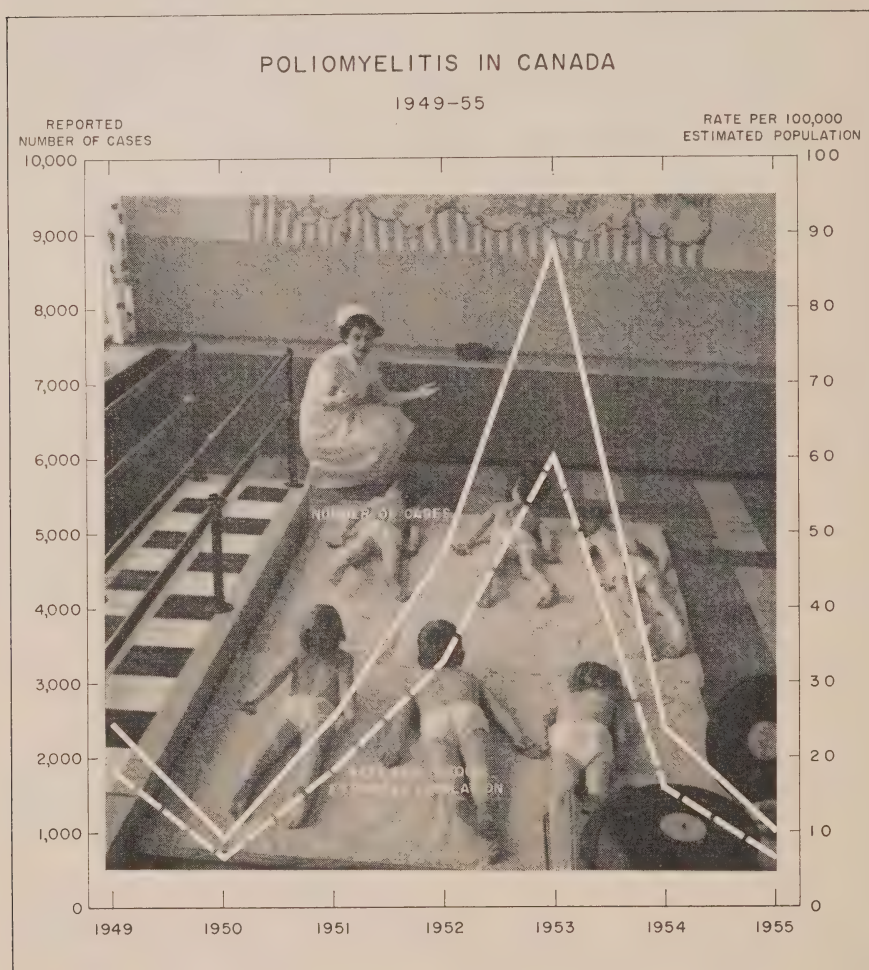
AVERAGE VISITS PER MEDICAL CASE AND PERCENTAGE DISTRIBUTION PER MEDICAL CASE AND VISIT BY AGE GROUP

<i>Age Group</i>	<i>Average No. of Visits per Case</i>	<i>P.C. of Cases</i>	<i>P.C. of Visits per Case</i>
Under 15.....	3.3	16.5	4.0
15-44.....	9.4	16.7	11.3
45-64.....	16.5	19.1	22.5
65 or over.....	18.3	47.1	61.7

Notifiable Diseases.—The method of collecting notifiable disease statistics has been outlined in the 1955 Year Book, pp. 246-247, and numbers of cases and rates per 100,000 population of selected notifiable diseases are reported on pp. 248-249 of the same edition.

The number of reported cases of certain notifiable diseases has been decreasing fairly steadily in recent years, including the year 1955. These diseases are: diphtheria, erysipelas, smallpox, tuberculosis, typhoid and paratyphoid fevers, and venereal diseases. The year 1954 was free from major epidemics.

Based on recorded numbers of cases reported since 1924 the incidence of poliomyelitis has been very erratic and is unpredictable from one year to another. The Chart below shows the trend of reported incidence of poliomyelitis during recent years. The year 1955 shows the lowest rate since 1945 but this cannot entirely be ascribed to the widespread introduction of vaccine for the first time in all provinces. Four provinces—Ontario, Manitoba, Saskatchewan and Alberta—accounted for 7,230 cases, or 81 p.c. of all reported cases in Canada during the epidemic of 1953, the alltime peak year since national figures were first recorded. The Province of Manitoba bore the brunt of this epidemic as indicated by an attack rate of 286.4 per 100,000 compared with the national rate of 60.2 per 100,000. In 1954 the Manitoba rate showed a drop to 13.8 per 100,000. (*See also, Special Article, Poliomyelitis Vaccine, pp. 258-60.*)



8.—Reported Cases of Selected Notifiable Diseases and Rates per 100,000 Population 1926-55

Year	Diphtheria	Poliomyelitis (All Types)	Smallpox	Tuberculosis (All Types)	Typhoid and Paratyphoid Fever
NUMBERS OF CASES					
Av. 1926-30.....	8,301	661	2,189	5,743	3,270
Av. 1931-35.....	3,294	687 ²	273	8,287	2,410
Av. 1936-40.....	2,777	1,202	90	9,322	1,760
Av. 1941-45.....	2,927 ²	800	9	12,926	1,195
Av. 1946-50.....	1,242	1,871	—	13,378	732
1946.....	2,535	2,527	2	15,263	921
1947.....	1,550	2,291	—	13,739	697
1948.....	898	1,168	—	12,363	565
1949.....	806	2,458	—	13,097	761
1950.....	421	911	—	12,429	718
1951.....	253	2,568	—	11,152	559
1952.....	190	4,755	—	10,506	509
1953.....	132	8,878	—	10,572	457
1954.....	208	2,390	—	10,474	469
1955.....	139	1,020	—	10,177	380
RATES PER 100,000 POPULATION ¹					
Av. 1926-30.....	84.5	6.7	22.3	58.5	33.3
Av. 1931-35.....	31.1	6.5	2.6	78.1	22.7
Av. 1936-40.....	24.9	10.8	0.8	83.7	15.8
Av. 1941-45.....	24.9	6.8	0.1	109.7	10.1
Av. 1946-50.....	9.8	14.6	—	103.8	5.7
1946.....	20.7	20.6	—	124.4	7.5
1947.....	12.4	18.3	—	109.7	5.6
1948.....	7.0	9.1	—	96.6	4.4
1949.....	6.0	18.3	—	97.6	5.7
1950.....	3.1	6.7	—	90.8	5.2
1951.....	1.8	18.4	—	79.7	4.0
1952.....	1.3	33.0	—	72.9	3.5
1953.....	0.9	60.2	—	71.6	3.1
1954.....	1.4	15.8	—	69.1	3.1
1955.....	0.9	6.5	—	65.4	2.4

¹ Based on official estimates of population.² Less than 0.1 per 100,000 population.

9.—Reported Cases of Selected Notifiable Diseases and Rates per 100,000 Estimated Population by Province 1954

Int. List No.	Disease	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada ¹
NUMBERS OF CASES												
087	Chickenpox.....	174	234	1,525	27	8,876	16,672	1,936	1,893	376	6,032	37,745
055	Diphtheria.....	7	—	2	4	125	11	—	11	41	7	208
045-048	Dysentery.....	3	9	13	2	109	276	21	55	65	602	1,153
046	Amoebic.....	—	—	—	—	—	—	—	1	—	—	5
045	Bacillary.....	3	9	13	2	109	276	21	54	61	602	1,148
082	Encephalitis, infectious.....	—	—	—	—	6	6	5	18	2	1	42
480-483	Influenza, epidemic.....	2	215	1,825	15	—	192	86	15	72	78	2,498
085	Measles.....	878	91	2,258	46	11,888	9,728	1,175	464	3,791	6,531	36,850
057-0	Meningitis, meningococcal.....	4	7	16	19	56	71	26	17	22	47	285
089	Mumps.....	48	66	1,245	128	6,989	10,052	1,223	3,149	495	3,513	26,908
080	Poliomyelitis, epidemic.....	22	83	137	61	786	250	114	197	523	217	2,390
086	Rubella (German measles).....	6	2	452	13	492	1,523	17	278	854	833	4,468
050	Scarlet fever.....	97	391	799	530	3,030	4,130	600	651	1,400	1,496	13,124
084	Smallpox.....	—	—	—	—	—	—	—	—	—	—	—
001-019	Tuberculosis ²	491	98	146	559	4,196	1,363	734	560	863	1,464	10,474
001, 002	Pulmonary.....	472	69	124	545	4,028	5	734	462	814	1,289	8,537
003-019	Non-pulmonary.....	19	29	22	11	168	—	—	80	49	175	553
040, 041	Typhoid and paratyphoid.....	6	—	7	20	298	58	3	20	13	44	469
044	Undulant fever.....	—	—	—	2	70	40	6	7	3	7	133
020-039	Veneral diseases.....	479	27	571	264	4,368	3,359	1,474	1,511	3,031	2,972	18,056
020-029	Syphilis.....	89	5	99	78	809	855	92	99	212	199	2,537
030-035	Gonorrhoea.....	390	22	469	186	3,558	2,499	1,379	1,411	2,819	2,736	15,472
036-039	Other venereal diseases ³	—	—	3	—	1	5	3	1	—	34	47
056	Whooping cough.....	1	259	426	99	3,084	5,272	381	162	828	1,088	11,600
RATES PER 100,000 POPULATION ⁷												
087	Chickenpox.....	43.7	222.9	226.6	4.9	202.3	330.4	233.8	215.6	36.2	476.5	248.8
055	Diphtheria.....	1.8	—	0.3	0.7	2.8	0.2	—	1.3	3.9	0.6	1.4
045-048	Dysentery.....	0.8	8.6	1.9	2	2.5	5.5	2.5	6.3	6.3	47.6	7.6
046	Amoebic.....	—	—	—	2	2	—	—	0.1	0.4	—	—
045	Bacillary.....	0.8	8.6	1.9	2	2.5	5.5	2.5	6.2	5.9	47.6	7.6
082	Encephalitis, infectious.....	—	2	0.6	—	0.1	0.1	0.6	2.1	0.2	0.1	0.3
480-483	Influenza, epidemic.....	2	204.8	271.2	2.7	—	3.8	10.4	1.7	6.9	6.2	16.5
085	Measles.....	220.6	86.7	335.5	8.4	270.9	192.8	141.9	52.8	364.9	515.9	242.9
057-0	Meningitis, meningococcal.....	1.0	6.7	2.4	3.5	1.3	1.4	3.1	1.9	2.1	3.7	1.9
089	Mumps.....	12.1	62.9	185.0	23.4	159.3	199.2	147.7	358.7	47.6	277.5	177.4
080	Poliomyelitis, epidemic.....	5.5	79.0	20.4	11.2	17.9	5.0	13.8	22.4	50.3	17.1	15.8
086	Rubella (German measles).....	1.5	2	67.2	2.4	11.2	30.2	2.1	31.7	82.2	65.8	29.5
050	Scarlet fever.....	24.4	372.4	118.7	96.9	69.1	81.8	72.5	74.1	134.7	118.2	86.5
084	Smallpox.....	—	—	—	—	—	—	—	—	—	—	—
001-019	Tuberculosis ²	123.4	93.3	21.7	102.2	95.6	27.0	88.6	63.8	83.1	115.6	69.1
001, 002	Pulmonary.....	118.6	65.7	18.4	99.6	91.8	—	88.6	52.6	78.3	101.8	56.3
003-019	Non-pulmonary.....	4.8	27.6	3.3	2.0	3.8	—	—	9.1	4.7	13.8	3.6
040, 041	Typhoid and paratyphoid.....	1.5	—	1.0	3.7	6.8	1.1	0.4	2.3	1.3	3.5	3.1
044	Undulant fever.....	—	—	—	2	1.6	0.8	0.7	0.8	0.3	0.6	0.9
020-039	Veneral diseases.....	120.4	25.7	84.8	48.3	99.5	66.6	178.0	172.1	291.7	234.8	119.0
020-029	Syphilis.....	22.4	4.8	14.7	14.3	18.4	16.9	11.1	17.3	20.4	15.7	16.7
030-035	Gonorrhoea.....	98.0	21.0	69.7	34.0	81.1	49.5	166.5	160.7	271.3	216.4	102.0
036-039	Other venereal diseases ³	—	—	0.4	—	8	0.1	0.4	0.1	—	2.7	0.3
056	Whooping cough.....	0.3	246.7	63.3	18.1	70.3	104.5	46.0	18.5	79.7	85.9	76.5

¹ Exclusive of Yukon and Northwest Territories.² These diseases are not reportable in provinces indicated.³ Includes cases of septic sore throat, epidemic.⁴ Includes cases where type was not specified.⁵ Type not specified.⁶ Includes chancre, granuloma inguinale and lymphogranuloma venereum.⁷ Based on official estimates of population (see p. 151).⁸ Less than 0.1 per 100,000 population.

10.—Reported Cases of Selected Notifiable Diseases and Rates per 100,000 Estimated Population by Province 1955

Int. List No.	Disease	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada ¹
NUMBERS OF CASES												
087	Chickenpox.....	342	437	1,443	40	7,755	16,904	1,314	218	198	4,948	33,599
055	Diphtheria.....	7	—	—	4	79	9	11	11	10	8	139
045-048	Dysentery.....	1	5	3	6	111	178	31	31	12	295	673
046	Amoebic.....	1	—	—	2	2	—	—	—	—	2	3
045	Bacillary.....	—	5	3	6	111	178	31	31	12	293	670
082	Encephalitis, infectious.....	—	2	1	—	3	15	1	13	—	2	35
480-483	Influenza, epidemic.....	15	3,955	11,520	20	13	6,606	247	461	—	15,601	38,438
085	Measles.....	2,284	2,276	1,140	564	10,094	21,920	2,893	469	7,122	8,160	56,922
057-0	Meningitis, meningococcal.....	40	8	7	28	44	74	20	20	21	48	310
089	Mumps.....	36	204	484	9	6,836	15,324	1,270	79	28	2,923	27,193
080	Poliomyelitis, epidemic ²	15	11	115	39	122	169	32	72	215	280	1,020
080-0.	} With paralysis.....	12	11	55	6	86	75	15	20	125	146	551
080-1	} Without paralysis.....	3	—	4	33	31	94	17	23	86	84	375
086	Rubeis (German measles).....	97	2	407	2	2,375	16,123	73	3	561	768	20,409
050, 051	Scarlet fever ⁴	153	411	1,161	142	2,222	2,796	233	404	729	1,106	9,360
084	Smallpox.....	—	—	—	—	—	—	—	—	—	—	—
001-019	Tuberculosis ⁵	408	58	84	682	3,903	1,514	599	449	1,066	1,414	10,177
001, 002	Pulmonary.....	398	40	75	679	3,749	1,514	540	335	1,000	1,257	8,073
003-019	Non-pulmonary.....	10	18	8	3	154	5	59	112	66	157	587
040, 041	Typhoid and paratyphoid.....	7	2	1	13	212	55	8	26	13	43	380
044	Undulant fever.....	—	—	—	2	63	28	9	8	1	13	122
020-039	Veneral diseases.....	447	56	637	313	3,884	2,850	1,315	1,334	3,053	2,758	16,647
020-029	Syphilis.....	55	6	86	47	843	616	100	200	189	243	2,395
030-035	Gonorrhoea.....	392	50	538	266	3,040	2,228	1,215	1,131	2,862	2,505	14,230
036-039	Other venereal diseases ⁶	—	—	3	—	1	6	—	—	—	7	22
056	Whooping cough.....	668	327	529	527	2,872	4,901	717	657	801	1,683	13,682
RATES PER 100,000 POPULATION ⁷												
087	Chickenpox.....	83.0	404.6	211.3	7.2	171.6	326.1	154.8	24.5	18.6	379.2	215.8
055	Diphtheria.....	1.7	—	—	0.7	1.7	0.2	1.3	1.2	0.9	0.6	0.9
045-048	Dysentery.....	0.2	4.6	0.4	1.1	2.5	3.4	3.7	3.5	1.1	22.6	4.3
046	Amoebic.....	0.2	—	—	2	2	—	—	—	—	0.2	—
045	Bacillary.....	—	4.6	0.4	1.1	2.5	3.4	3.7	3.5	1.1	22.6	4.3
082	Encephalitis.....	—	2	0.1	—	0.1	0.3	0.1	1.5	—	0.2	0.2
480-483	Influenza, epidemic.....	3.6	3,662.0	1,686.7	3.6	0.3	127.5	29.0	51.9	—	1,195.5	246.8
085	Measles.....	554.4	2,107.4	166.9	101.1	223.3	422.9	340.8	52.8	668.1	625.3	365.5
057-0	Meningitis, meningococcal.....	9.7	7.4	1.0	5.0	1.0	1.4	2.4	2.2	2.0	3.7	2.0
089	Mumps.....	8.7	188.9	70.9	1.6	151.2	295.7	149.6	8.9	2.6	224.0	174.6
080	Poliomyelitis, epidemic.....	3.6	10.2	16.8	7.0	2.7	3.3	3.8	8.1	20.2	17.6	6.5
080-0.	} With paralysis.....	2.9	10.2	8.1	1.1	1.9	1.4	1.8	2.2	11.7	11.2	3.5
080-1	} Without paralysis.....	0.7	—	0.6	5.9	0.7	1.8	2.0	2.6	8.1	6.4	2.4
086	Rubella (German measles).....	23.5	2	59.6	0.4	52.5	311.1	8.6	0.3	52.6	58.9	131.1
050, 051	Scarlet fever ⁴	37.1	380.6	170.0	25.4	49.2	53.9	27.4	45.4	68.4	85.0	60.1
084	Smallpox.....	—	—	—	—	—	—	—	—	—	—	—
001-019	Tuberculosis ⁵	99.0	53.7	12.3	122.2	86.3	29.2	70.6	50.5	100.0	108.4	65.4
001, 002	Pulmonary.....	96.6	57.0	11.0	121.7	82.9	29.2	63.6	37.7	93.8	96.3	51.8
003-019	Non-pulmonary.....	2.4	16.7	1.2	0.5	3.4	5	6.9	12.6	6.2	12.0	3.8
040, 041	Typhoid and paratyphoid.....	1.7	1.9	—	2.3	4.7	1.1	0.9	2.9	1.2	3.3	2.4
044	Undulant fever.....	—	—	—	2	1.4	0.5	1.0	0.9	0.1	1.0	0.8
020-039	Veneral diseases.....	108.5	51.9	93.3	56.1	85.9	55.0	154.9	150.1	286.4	211.3	106.9
020-029	Syphilis.....	13.3	6.6	14.1	8.4	18.7	11.9	11.8	22.5	17.7	18.6	15.4
030-035	Gonorrhoea.....	95.1	46.3	78.8	47.7	67.3	43.0	143.1	127.2	268.5	192.2	91.4
036-039	Other venereal diseases ⁶	—	—	0.4	—	8	0.1	—	0.3	0.2	0.3	0.1
056	Whooping cough.....	162.1	302.8	77.5	94.4	63.5	94.6	84.5	73.9	75.1	129.0	87.9

¹ Exclusive of Yukon and Northwest Territories.² These diseases are not reportable in provinces indicated.³ Includes cases where type was not specified.⁴ Includes cases of septic sore throat, epidemic.⁵ Type not specified.⁶ Includes chancroid, granuloma inguinale and lymphogranuloma venereum.⁷ Based on official estimates of population (see p. 151).⁸ Less than 0.1 per 100,000 population.

Subsection 2.—Health Institutions*

Hospitals in Canada could have accommodated one in every hundred Canadians at the end of 1953. The 151,485 beds, their gross capacity, were distributed among 1,143 hospitals according to figures reported to the Dominion Bureau of Statistics.† In addition to those actually reporting to the Bureau there were 45 public hospitals with a capacity of 3,466 beds and 93 private hospitals with a capacity of about 1,500, so that the grand total of all known hospitals in the country was 1,281, with space for about 156,500 beds exclusive of bassinets for newborn infants. These hospitals may conveniently be classified into three categories according to admission policy: public, which admit any patient; private, which admit only paying patients; and federal, which treat special groups. They may also be classified into four categories according to the type of condition treated: general, treating basically all forms of physical illness; special, treating particular types of illness such as chronic conditions or communicable diseases; mental, treating psychiatric disorders; and tuberculosis sanatoria.

Table 11 cross-classifies these two sets of characteristics in each province, showing the number of hospitals and their capacity in each classification. The table excludes the above mentioned non-reporting hospitals and also excludes bassinets. It will be observed that Ontario had the greatest number of hospitals, followed in order by Quebec, Saskatchewan and British Columbia.

Table 12 presents summary statistics for 1949 to 1953 of public and private general and special hospitals.

* Prepared in the Institutions Section of the Health and Welfare Division, Dominion Bureau of Statistics.

† More detailed information may be found in DBS publications: *Hospital Statistics 1953*, Vols. I and II; *Mental Health Statistics 1954* and *Financial Supplement*; *Tuberculosis Statistics 1954* and *Financial Supplement*.

11.—Hospitals Reporting and Bed Capacity (excluding Bassinets) by Type of Hospital and Type of Service by Province 1953

Province and Type	General		Special		Mental		Tuberculosis		All Hospitals	
	No.	Beds	No.	Beds	No.	Beds	No.	Beds	No.	Beds
Newfoundland	27	1,598	2	129	1	526	2	622	32	2,875
Public.....	27	1,598	2	129	1	526	2	622	32	2,875
Private.....	—	—	—	—	—	—	—	—	—	—
Federal.....	—	—	—	—	—	—	—	—	—	—
Prince Edward Island ..	7	633	—	—	1	300	1	150	9	1,083
Public.....	7	633	—	—	1	300	1	150	9	1,083
Private.....	—	—	—	—	—	—	—	—	—	—
Federal.....	—	—	—	—	—	—	—	—	—	—
Nova Scotia	49	4,228	5	140	17	3,042	5	866	76	8,276
Public.....	43	3,298	3	132	17	3,042	4	851	67	7,323
Private.....	—	—	1	1	—	—	1	15	2	16
Federal.....	6	930	1	7	—	—	—	—	7	937
New Brunswick	34	2,624	4	124	1	910	5	867	44	4,525
Public.....	30	2,094	2	105	1	910	5	867	38	3,976
Private.....	2	55	—	—	—	—	—	—	2	55
Federal.....	2	475	2	19	—	—	—	—	4	494

11.—Hospitals Reporting and Bed Capacity (excluding Bassinets) by Type of Hospital and Type of Service by Province 1953—concluded

Province and Type	General		Special		Mental		Tuberculosis		All Hospitals	
	No.	Beds	No.	Beds	No.	Beds	No.	Beds	No.	Beds
Quebec	99	15,481	46	4,091	13	15,781	18	5,547	176	40,900
Public.....	81	12,818	19	3,607	12	15,694	17	5,347	129	37,466
Private.....	13	278	26	477	1	87	—	—	40	842
Federal.....	5	2,385	1	7	—	—	1	200	7	2,592
Ontario	192	23,918	38	3,284	19	14,513	16	4,367	265	46,082
Public.....	164	19,528	22	2,949	17	14,235	15	4,207	218	40,919
Private.....	17	334	16	335	2	278	—	—	35	947
Federal.....	11	4,056	—	—	—	—	1	160	12	4,216
Manitoba	66	4,247	4	842	4	2,912	7	1,268	81	9,269
Public.....	61	3,303	4	842	4	2,912	4	762	73	7,819
Private.....	1	8	—	—	—	—	—	—	1	8
Federal.....	4	936	—	—	—	—	3	506	7	1,442
Saskatchewan	164	5,508	4	13	3	3,061	3	803	174	9,385
Public.....	151	5,128	1	1	3	3,061	3	803	158	8,993
Private.....	9	26	3	12	—	—	—	—	12	38
Federal.....	4	354	—	—	—	—	—	—	4	354
Alberta	100	6,874	4	231	6	3,809	3	1,180	113	12,094
Public.....	95	6,269	4	231	6	3,809	2	600	107	10,909
Private.....	—	—	—	—	—	—	—	—	—	—
Federal.....	5	605	—	—	—	—	1	580	6	1,185
British Columbia	96	8,565	51	1,630	8	4,871	10	1,437	165	16,503
Public.....	85	6,953	2	125	7	4,801	7	941	101	12,820
Private.....	8	112	46	1,230	1	70	—	—	55	1,412
Federal.....	3	1,500	3	275	—	—	3	496	9	2,271
Yukon and Northwest Territories	8	493	—	—	—	—	—	—	8	493
Public.....	7	480	—	—	—	—	—	—	7	480
Private.....	1	13	—	—	—	—	—	—	1	13
Federal.....	—	—	—	—	—	—	—	—	—	—
Canada	842	74,169	158	10,484	73	49,725	70	17,107	1,143	151,485
Public.....	751	62,102	59	8,121	69	49,290	60	15,150	939	134,663
Private.....	51	826	92	2,055	4	435	1	15	148	3,331
Federal.....	40	11,241	7	308	—	—	9	1,942	56	13,491

12.—Summary Statistics of Reporting Public and Private General and Special Hospitals 1949-53

Item	1949	1950	1951	1952	1953
	No.	No.	No.	No.	No.
Public—					
Hospitals reporting.....	738	761	778	777	810
Bed capacity ¹	71,210	75,691	79,339	78,666	81,752
Patients under care ²	1,829,236	1,900,628	2,012,773	2,107,880	2,226,293
Patient-days during year ²	20,221,160	21,189,308	21,920,099	22,331,887	23,075,013
Private—					
Hospitals reporting.....	194	225	220	187	143
Bed capacity ¹	3,722	4,593	4,638	3,884	3,271
Patients under care ²	63,052	70,577	67,486	60,432	50,107
Patient-days during year ²	877,054	1,029,935	1,076,207	992,425	853,324

¹ Includes bassinets.² Includes newborn.

Public Hospitals.—Movement of patients and number of personnel in reporting public hospitals are summarized in Table 13, and their revenues and expenditures in Table 14.

13.—Movement of Patients and Number of Personnel of Reporting Public Hospitals by Province 1953

Item	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	No.	No.	No.	No.	No.	No.
Hospitals reporting.....	29	7	46	32	100	186
Movement of Patients—¹						
Admissions.....	37,229	15,841	94,455	84,274	419,299	737,048
Total under care.....	38,334	16,138	96,836	85,921	431,096	755,519
Discharges.....	36,372	15,368	92,126	82,492	407,717	715,518
Deaths.....	693	377	2,273	1,758	10,759	20,240
Patient-days during year.....	507,257	146,232	884,332	712,458	5,327,613	7,822,865
Personnel—²						
Salaried doctors, full time.....	28	1	14	5	126	158
Interns.....	20	—	77	17	573	631
Graduate nurses.....	278	103	841	550	2,937	8,294
Student nurses.....	248	134	692	616	2,824	5,489
Other personnel.....	1,046	325	1,985	1,857	12,556	22,251
Totals, Personnel.....	1,620	563	3,609	3,045	19,016	36,823
	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.
Hospitals reporting.....	65	152	99	87	7	810
Movement of Patients—¹						
Admissions.....	128,991	198,275	223,084	232,257	1,603	2,172,356
Total under care.....	132,194	202,977	227,690	237,649	1,939	2,226,293
Discharges.....	125,537	194,413	218,918	226,149	1,480	2,116,090
Deaths.....	3,251	3,948	3,993	5,746	50	53,088
Patient-days during year.....	1,332,347	1,952,499	1,971,957	2,279,810	137,643	23,075,013
Personnel—²						
Salaried doctors, full time.....	37	21	21	31	1	443
Interns.....	80	51	111	149	—	1,709
Graduate nurses.....	897	1,367	1,568	2,616	20	19,471
Student nurses.....	860	1,173	1,264	1,193	—	14,493
Other personnel.....	3,374	4,882	4,600	6,426	133	58,935
Totals, Personnel.....	5,248	6,994	7,564	10,415	154	95,051

¹ Includes newborn.² Includes part time personnel except part time salaried doctors.

14.—Finances of Reporting Public Hospitals by Province 1953

Item	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	No.	No.	No.	No.	No.	No.
Hospitals reporting.....	5	6	46	32	85	175
	\$	\$	\$	\$	\$	\$
Revenue—						
Net earnings from patients.....	647,614	728,667	6,355,394	5,669,073	37,470,534	70,580,111
Provincial and municipal grants.....	211,739	130,405	857,875	986,740	1,614,684	11,547,513
Other revenue.....	55,002	30,781	253,633	118,837	3,186,468	3,118,569
Totals, Revenue.....	914,355	889,853	7,466,902	6,774,650	42,271,686	85,246,193
Expenditure—						
Salaries and wages (gross).....	526,570	352,986	4,003,985	3,700,976	24,664,786	55,460,130
Direct expense.....	511,831	447,565	4,142,921	3,248,886	18,197,912	30,951,931
Other expenditure.....	16,394	138,523	522,573	848,237	3,974,243	6,891,372
Totals, Expenditure (gross).....	1,054,795	939,074	8,669,479	7,798,099	46,836,941	93,303,433
Cost per patient-day ¹	8.11	7.87	9.48	10.18	9.29	11.57

For footnotes, see end of table.

14.—Finances of Reporting Public Hospitals by Province 1953—concluded

Item	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.
Hospitals reporting.....	65	145	95	87	—	741 ²
	\$	\$	\$	\$	\$	\$
Revenue—						
Net earnings from patients.....	10,019,310	17,579,377	15,720,091	28,986,811	..	193,756,982
Provincial and municipal grants...	882,134	353,780	5,347,009	677,438	..	22,609,317
Other revenue.....	452,728	288,733	368,547	1,350,789	..	9,224,087
Totals, Revenue.....	11,354,172	18,221,890	21,435,647	31,015,038	..	225,590,386
Expenditure—						
Salaries and wages (gross).....	7,079,701	11,773,524	11,813,901	22,422,687	..	141,799,246
Direct expense.....	4,488,483	6,663,997	7,716,524	9,725,586	..	86,095,636
Other expenditure.....	769,708	1,274,948	1,740,062	1,741,528	..	17,917,588
Totals, Expenditure (gross)...	12,337,892	19,712,469	21,270,487	33,889,801	..	245,812,470
Cost per patient-day ¹	9.03	9.61	10.69	14.14	..	10.77

¹ Includes newborn.² 69 public hospitals reporting other information did not report finances.

Mental Institutions.—Data on movement of patients and personnel number for the 96 mental institutions that reported to the Dominion Bureau of Statistics in 1954 are given in Table 15. Table 16 presents revenue and expenditure for 72 of those institutions; financial statistics were not reported by one municipal hospital in Nova Scotia, one provincial and one lay hospital in Quebec, one federal hospital in each of Ontario and Quebec and the 19 psychiatric units.

Government and municipal payments made up 82.6 p.c. of all the revenue received by mental institutions and salaries accounted for 58.1 p.c. of the total maintenance expenditure. (New buildings and improvements took 12.0 p.c. of the expenditure in 1952. Prince Edward Island, with only one institution reporting, was the only province showing no expenditure for this item. Ontario's outlay amounting to \$5,070,039, accounted for 20.8 p.c. of all its 1952 expenditure for this purpose.)

15.—Movement of Patients and Number of Personnel of Reporting Mental Institutions¹ by Province 1954

Item	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	No.	No.	No.	No.	No.	No.
Institutions reporting.....	1	1	18	3	15	29
Movement of Patients—						
Admissions (excluding transfers)...	282	210	1,541	685	6,698	9,182
Patients under care.....	849	379	2,991	1,888	18,149	22,470
Separations (excluding transfers)...	229	203	1,492	513	6,277	8,122
Patients at Dec. 31, 1954.....	902	386	3,040	2,060	18,570	23,530
Personnel—						
Medical staff, full time (including interns).....	6	2	12	17	87	176
Medical staff, part time (including interns).....	13	9	14	21	152	116
Psychiatric nurses.....	—	2	4	1	49	92
Registered nurses.....	29	—	52	39	280	507
Other nurses.....	196	51	306	233	1,668	4,246
Other personnel.....	177	58	321	232	1,852	2,462
Totals, Personnel.....	421	122	709	543	4,088	7,599

For footnote, see end of table.

15.—Movement of Patients and Number of Personnel of Reporting Mental Institutions¹ by Province 1954—concluded

Item	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.
Institutions reporting.....	6	4	8	11	—	96
Movement of Patients—						
Admissions (excluding transfers)...	1,611	1,603	2,214	5,325	—	29,351
Patients under care.....	3,713	4,967	4,153	6,542	—	66,101
Separations (excluding transfers)...	1,406	1,581	1,952	5,079	—	26,854
Patients at Dec. 31, 1954.....	3,918	4,989	4,415	6,788	—	68,598
Personnel—						
Medical staff, full time (including interns).....	28	35	26	50	—	439
Medical staff, part time (including interns).....	6	4	11	7	—	353
Psychiatric nurses.....	187	348	193	667	—	1,543
Registered nurses.....	38	8	71	48	—	1,072
Other nurses.....	496	460	602	929	—	9,187
Other personnel.....	347	518	579	718	—	7,264
Totals, Personnel.....	1,102	1,373	1,482	2,419	—	19,858

¹ Includes 19 psychiatric units.

16.—Finances of 72 Reporting Mental Institutions by Province 1954

Item	Newfoundland	Prince Edward Island	Nova Scotia ¹	New Brunswick	Quebec	Ontario
	\$	\$	\$	\$	\$	\$
Revenue—						
Government and municipal payments.....	1,474,405	273,296	1,497,333	1,648,762	8,704,838	19,202,917
Paying patients.....	77,942	—	605,460	232,643	1,489,328	3,780,340
Other sources.....	—	77,655	87,662	13,697	731,747	228,822
Totals, Revenue.....	1,552,347	350,951	2,190,455	1,895,102	10,925,913	23,212,079
Expenditure—						
Salaries (net).....	749,530	127,927	1,002,628	1,029,301	5,055,256	14,890,922
Provisions (food).....	447,050	94,150	506,308	363,112	2,391,210	3,514,309
Other maintenance expenditure...	355,767	128,874	661,115	502,689	4,098,686	4,783,693
Totals, Maintenance Expenditure	1,552,347	350,951	2,170,051	1,895,102	11,545,152	23,188,924
	Manitoba ¹	Saskatchewan	Alberta	British Columbia ¹	Yukon and N.W.T.	Canada
	\$	\$	\$	\$	\$	\$
Revenue—						
Government and municipal payments.....	3,040,554	5,558,058	2,827,171	7,807,695	—	52,035,029
Paying patients.....	488,174	225,170	858,555	1,616,602	—	9,374,214
Other sources.....	47,538	297,022	90,718	144	—	1,575,005
Totals, Revenue.....	3,576,266	6,080,250	3,776,444	9,424,441	—	62,984,248
Expenditure—						
Salaries (net).....	2,127,300	3,665,153	3,266,585	5,318,496	—	37,233,098
Provisions (food).....	726,549	647,286	861,734	1,650,427	—	11,202,135
Other maintenance expenditure...	635,456	1,245,620	861,587	2,378,154	—	15,651,641
Totals, Maintenance Expenditure	3,489,305	5,558,059	4,989,906	9,347,077	—	64,086,874

¹ Figures incorporate data for 1953 for two hospitals in Nova Scotia and for 1953-54 for one in Manitoba and seven in British Columbia which did not submit later data.

Tuberculosis Institutions.—Of the 17,683 beds set up (known as bed complement) in tuberculosis sanatoria and tuberculosis units only 13,798 or 78.0 p.c. were located in public sanatoria, 2,248 beds or 12.7 p.c. were located in units of other hospitals, and 1,637 or 9.3 p.c. were in Federal Government sanatoria. Data in Table 18 relating to movement of patients cover all three groups but the data on personnel and on hospital facilities relate to the two groups of sanatoria only, excluding units in other hospitals. The financial data in Table 19 include only the public sanatoria, excluding all units and all federal sanatoria.

17.—Bed Complement of Tuberculosis Institutions and Units by Province 1954

Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Public sanatoria.....	730	174	857	841	4,055	4,284	621	803	600	833	—	13,798
Federal Government sanatoria.....	—	—	—	—	137	—	507	—	470	523	—	1,637
Units in public hospitals....	97	—	200	—	696	—	—	—	—	52	410	1,455
Units in Federal Government hospitals.....	—	—	118	68	227	231	—	85	—	64	—	793
Totals, Bed Complement	827	174	1,175	909	5,115	4,515	1,128	888	1,070	1,472	410	17,683

18.—Movement of Patients, Personnel and Facilities of Tuberculosis Institutions and Units by Province 1954

Item	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	No.	No.	No.	No.	No.	No.
Movement of Patients—						
Admissions.....	894	152	1,258	1,553	7,012	4,170
Discharges ¹	861	132	1,246	1,599	7,114	4,154
Deaths.....	23	4	50	48	299	271
Patients under care.....	1,630	284	1,796	2,184	10,954	7,744
Collective stay in days.....	280,995	52,983	334,728	274,636	1,802,068	1,513,371
Personnel—²						
Salaried doctors.....	18	8	21	26	201	86
Graduate nurses.....	54	19	115	90	290	418
Other personnel.....	492	89	672	500	2,118	2,198
Totals, Personnel.....	564	116	808	616	2,609	2,702
Hospital Facilities—²						
X-ray.....	2	—	4	4	16	14
Clinical laboratory.....	2	1	4	4	16	13
Physiotherapy.....	1	1	2	1	7	3
	Manitoba	Saskatchewan	Alberta	British Columbia	Northwest Territories	Canada
	No.	No.	No.	No.	No.	No.
Movement of Patients—						
Admissions.....	1,740	1,082	903	1,563	177	20,504
Discharges ¹	1,745	1,031	911	1,595	241	20,629
Deaths.....	47	24	44	87	7	904
Patients under care.....	2,444	1,650	1,818	2,866	516	33,886
Collective stay in days.....	397,496	312,013	340,925	501,679	136,136	5,947,030
Personnel—²						
Salaried doctors.....	21	20	36	44	—	481
Graduate nurses.....	63	71	139	209	—	1,468
Other personnel.....	713	490	613	1,025	—	8,915
Totals, Personnel.....	797	581	793	1,278	—	10,864
Hospital Facilities—²						
X-ray.....	7	—	2	4	—	53
Clinical laboratory.....	6	3	3	3	—	55
Physiotherapy.....	1	1	1	2	—	20

¹ Excludes deaths.² Sanatoria only.

19.—Finances of Public Tuberculosis Sanatoria by Province 1954

(Exclusive of Federal Government sanatoria)

Item	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	No.	No.	No.	No.	No.	No.
Sanatoria reporting.....	2	1	5	5	16	15
	\$	\$	\$	\$	\$	\$
Revenue—						
Government and municipal grants and payments.....	1,782,938	282,200	1,966,147	2,109,561	5,976,044	7,135,257
Paying patients.....	—	37,003	—	18,215	125,344	100,627
Other sources.....	24,753	25,009	79,234	35,129	981,378	1,924,624
Totals, Revenue.....	1,807,691	344,212	2,045,381	2,162,905	7,082,766	9,160,508
Expenditure—						
Salaries and wages.....	833,459	176,259	983,971	1,112,712	3,489,683	5,087,938
Supplies.....	719,888	117,636	740,264	555,646	2,160,814	2,151,148
Other expenditure.....	254,344	44,567	296,321	528,122	1,511,172	1,773,183
Totals, Expenditure.....	1,807,691	338,462	2,020,556	2,196,480	7,161,669	9,012,269
Cost per patient-day.....	7.62	6.39	8.05	8.50	5.04	6.34
	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.
Sanatoria reporting.....	4	3	2	5	—	58
	\$	\$	\$	\$	\$	\$
Revenue—						
Government and municipal grants and payments.....	1,050,667	1,452,678	1,212,251	3,565,039	—	26,532,782
Paying patients.....	69,140	—	5,684	68,688	—	424,701
Other sources.....	71,435	815,127	225,467	34,377	—	4,216,533
Totals, Revenue.....	1,191,242	2,267,805	1,443,402	3,668,104	—	31,174,016
Expenditure—						
Salaries and wages.....	713,337	1,268,937	1,049,644	2,436,197	—	17,152,137
Supplies.....	344,367	501,718	327,195	665,068	—	8,283,744
Other expenditure.....	243,064	459,725	66,563	566,839	—	5,743,900
Totals, Expenditure.....	1,300,768	2,230,380	1,443,402	3,668,104	—	31,179,781
Cost per patient-day.....	5.85	8.06	7.63	13.10	—	6.76

¹ Includes all institutions operated by the Provincial Division of Tuberculosis Control.

Federal Government Hospitals.—Under the terms of the British North America Act health and welfare is the special responsibility of the provinces. Nevertheless the Federal Government is responsible for the health of certain groups such as war veterans and members of the Armed Forces, newly arrived immigrants, Indians and Eskimos, and lepers. The Federal hospitals are administered by three departments of government: in 1953 the Department of Veterans Affairs administered 19; the Department of National Defence, 9; the Department of National Health and Welfare's Indian Health Service, 18; and the Department of National Health and Welfare's Quarantine and Sick Mariners' Service, 10.

Table 20 gives summary statistics of these hospitals for 1953.

20.—Summary Statistics of Federal Government Hospitals 1953

Item	Department of Veterans Affairs	Department of National Defence	Department of National Health and Welfare		Total
			Indian Health Services	Quarantine and Sick Mariners	
	No.	No.	No.	No.	No.
Hospitals reporting.....	19	9	18	10	56
Beds—¹					
General.....	7,181	925	549	280	8,935
Tuberculosis.....	576	—	1,564	—	2,140
Mental.....	1,550	—	—	—	1,550
Other.....	667	—	—	93	760
Totals, Beds.....	9,974	925	2,113	373	13,385
Personnel—					
Salaried doctors.....	127	78	48	23	276
Graduate nurses.....	1,522	145	216	50	1,933
Other personnel.....	7,476	557	1,094	138	9,265
Totals, Personnel.....	9,125	780	1,358	211	11,474
Facilities—					
Laboratory.....	14	9	7	9	39
Radiology.....	15	9	17	4	45
Physiotherapy.....	18	9	1	2	30
Outpatient service.....	14	9	14	9	46
Movement of Patients—					
In hospital at beginning of year.....	7,177	492	1,873	41	9,583
Admissions.....	51,783	19,677	8,605	544	80,609
Totals, Under Care.....	58,960	20,169	10,478	585	90,192
Discharges.....	49,741	19,600	8,269	522	78,132
Deaths.....	2,040	20	165	25	2,250
In hospital at end of year.....	7,179	549	2,044	38	9,810
Patient-days during year.....	2,854,644	293,400	718,614	11,127	3,877,785
Average daily number of patients.....	7,821.0	803.8	1,968.8	30.5	10,624.1
Percentage occupancy.....	78.4	86.9	93.2	8.2	79.4

¹ Excludes bassinets.

PART II.—PUBLIC WELFARE AND SOCIAL SECURITY*

Responsibility for social welfare in Canada has rested in large part on the provinces which in turn have delegated an important share of this responsibility to the municipalities. Though constitutional authority has not changed, except with respect to unemployment insurance and old age pensions, the financial participation of the Federal Government has been greatly extended in the past two decades in the provision of income maintenance payments.

The creation of the Department of National Health and Welfare in 1944 established for the first time in the Federal Government a department in which public welfare is a major responsibility. The Department is charged with the administration of federal Acts relating to welfare which are not assigned by law to other departments. In addition

* Except as otherwise indicated, this Part was prepared in the Research Division, Department of National Health and Welfare, Ottawa.

to the general promotion of social welfare, the Welfare Branch of the Department administers the family allowances program, the old age security program and the federal aspects of old age assistance, allowances for blind persons and the new program of aid to disabled persons. Grants to the provinces to promote physical fitness were introduced in 1943 but the Act providing for them was repealed in June 1954.

Unemployment insurance is administered by the Unemployment Insurance Commission; welfare and health services for veterans by the Department of Veterans Affairs; and the welfare of Indians and Eskimos by the Department of Citizenship and Immigration and the Department of Northern Affairs and National Resources, respectively.

Administration and financial responsibility in other fields of welfare such as mothers' allowances, child protection and general assistance or relief are left entirely to the provinces and their local subdivisions.

Section 1.—Federal Government Programs

Subsection 1.—Family Allowances

The Family Allowances Act was introduced in 1944 as a basic social security measure designed to assist in providing equal opportunity for all Canadian children. The allowances involve no 'means test' and are paid entirely out of the Federal Consolidated Revenue Fund. They are not part of taxable income although persons with children eligible for family allowances obtain a smaller income tax exemption for such children than for children not so eligible.

Allowances are payable in respect of every child under the age of 16 years who was born in Canada or has been a resident of the country for one year, or whose father or mother was domiciled in Canada for three years immediately prior to the birth of the child. Monthly payment is made normally to the mother although any person who substantially maintains the child may be paid the allowance on his behalf. The allowances are paid at the monthly rate of \$5 for each child under 6 years; \$6 for each child from 6 to 9 years; \$7 for each child from 10 to 12 years; and \$8 for each child from 13 to 15 years. The allowances are paid by cheque, except for Eskimo children and a group of Indian children for whom payment is made largely in kind because of lack of exchange facilities in remote areas and the need for education in the use of nutritive foods.

If it is satisfactorily shown to the authorities that the allowances are not being spent for the purpose outlined in the Act payment may be discontinued or made to some other person or agency on behalf of the child. Allowances are not payable for any child who fails to comply with provincial school regulations or on behalf of a girl who, although she is under 16 years of age, is married.

Family allowances are administered by the National Director of Family Allowances of the Department of National Health and Welfare through Regional Directors in offices located in each provincial capital. A Welfare Section in each regional office deals with welfare questions arising out of the administration of allowances. A Supervisor of Welfare Services advises each Regional Director and reports through him to the Chief Supervisor of Welfare Services, who acts in a similar advisory capacity to the National Director. The actual preparing and issuing of the cheques is the responsibility of the treasury division of each regional office which reports to the Chief Treasury Officer of the Department of Finance with the Department of National Health and Welfare.

The Regional Director for the Yukon and Northwest Territories, located at Ottawa, is responsible for payments to families in those areas. Close co-operation is maintained with the Departments of Citizenship and Immigration and of Northern Affairs and National Resources which are responsible for the welfare of Indians and Eskimos, respectively (*see* Population Chapter, pp. 173 and 174).

1.—Family Allowances Statistics by Province, Years Ended Mar. 31, 1954 and 1955

NOTE.—Figures for 1952 and 1953 are given in the 1955 Year Book, p. 259.

Province or Territory and Year	Families Receiving Allowance in March	Children for Whom Allowance Paid in March	Average Number of Children per Family in March	Average Allowance ¹		Net Total Allowances Paid During Fiscal Year
				per Family	per Child	
	No.	No.	No.	\$	\$	\$
Newfoundland.....1954	55,102	163,292	2.96	17.70	5.97	11,497,719
.....1955	56,692	169,760	2.99	17.91	5.98	11,967,775
Prince Edward Island....1954	13,205	35,441	2.68	16.22	6.04	2,558,097
.....1955	13,142	35,812	2.72	16.54	6.07	2,590,704
Nova Scotia.....1954	95,715	233,076	2.43	14.73	6.05	16,716,374
.....1955	97,478	238,896	2.45	14.84	6.05	17,147,920
New Brunswick.....1954	75,189	205,785	2.74	16.50	6.03	14,700,819
.....1955	76,229	210,640	2.76	16.68	6.03	15,073,324
Quebec.....1954	555,050	1,562,685	2.67	16.20	6.06	111,441,301
.....1955	605,916	1,624,055	2.68	16.27	6.07	116,057,182
Ontario.....1954	712,592	1,489,030	2.09	12.54	6.00	104,409,819
.....1955	744,736	1,574,703	2.11	12.68	6.00	110,492,480
Manitoba.....1954	116,238	253,803	2.18	13.11	6.00	17,979,854
.....1955	119,594	264,274	2.21	13.26	6.00	18,705,349
Saskatchewan .....1954	123,753	281,344	2.27	13.80	6.07	20,244,540
.....1955	126,424	290,359	2.30	13.92	6.06	20,894,790
Alberta.....1954	154,258	339,803	2.20	13.24	6.01	23,958,080
.....1955	161,737	361,551	2.23	13.39	5.99	25,390,585
British Columbia.....1954	181,241	367,834	2.03	12.26	6.04	25,904,496
.....1955	188,471	388,442	2.06	12.45	6.04	27,405,872
Yukon and Northwest Territories. 1954	4,366	9,951	2.28	13.94	6.11	702,801
.....1955	4,608	10,550	2.29	13.69	5.98	739,984
Canada.....1954	2,116,709	4,942,044	2.33	14.05	6.03	350,113,902
.....1955	2,195,627	5,169,042	2.35	14.20	6.03	366,465,965

¹ Based on gross payments for March.

Subsection 2.—Old Age Security*

Under the Old Age Security Act (R.S.C. 1952, c. 200), effective January 1952, a universal pension of \$40 a month is payable by the Federal Government to all persons aged 70 or over, subject only to a residence qualification. Residence requirement is 20 years immediately preceding commencement of pension with certain temporary absences allowed. Where the applicant has not so resided for the complete 20 years the periods of absence may be made up by having been present in Canada, prior to the 20 year period, for double the periods of absence; for these persons there is a further requirement of one year's residence immediately preceding the commencement of the pension.

Payment of the pension is suspended when the pensioner leaves Canada. On his return the pension may be resumed and, if absences have not exceeded six months, payment may then be made retroactively for as many as three months of absence in any calendar year.

* The Old Age Pensions Act of 1927 under which old age pensions were paid jointly by the Federal and Provincial Governments, ceased to be effective Dec. 31, 1951, at which time all recipients thereunder were automatically transferred to the rolls of the universal pension under the Old Age Security Act 1951.

The program is financed on a pay-as-you-go basis. Payment of the pension is made from the Consolidated Revenue Fund and charged to the Old Age Security Fund account. The income of the Old Age Security Fund is derived from three sources. First, there is a 2 p.c. tax on personal taxable income, that is, on income less exemptions and deductions; the maximum tax per person is \$60 per annum. The fund also receives the amount collected by a special 2 p.c. tax on corporate taxable income and the proceeds of a 2 p.c. sales tax. Temporary loans may be made to the Old Age Security Fund, subject to repayment as directed. Operations of the Fund are shown in Table 2.

2.—Operations of the Old Age Security Fund, Years Ended Mar. 31, 1952-55

Item	Year Ended Mar. 31—			
	1952 ¹	1953	1954	1955
Revenue	\$	\$	\$	\$
Taxes—				
Individual income.....	100,000	45,250,000	90,700,000	100,900,000
Corporation income.....	2,000,000	36,850,000	55,600,000	46,000,000
Sales.....	24,297,979	141,558,292	146,832,886	143,053,678
Grant from Consolidated Revenue.....	49,668,855	—	—	—
Loan from Consolidated Revenue.....	—	99,483,322 ²	45,837,905 ³	63,251,655 ³
Totals, Revenue.....	76,066,835	323,141,614	338,970,791	353,205,333
Expenditure				
Totals, Expenditure (Benefit Payments).....	76,066,835	323,141,614	338,970,791	353,205,333

¹ Program in effect for the last three months only of the fiscal year.

² In the Budget Speech of Apr. 6,

1954 it was announced that this sum was being written off against the reserve for possible losses on active assets.

³ In the Budget Speech of Apr. 5, 1955 it was announced that the 1953-54 loan would be written off by a grant from the Consolidated Revenue Fund for the fiscal year 1954-55 and that the 1954-55 loan would be handled in the same way in the fiscal year 1955-56.

The program is administered by the National Director of Old Age Security of the Department of National Health and Welfare through the ten regional offices established in connection with the payment of family allowances. The two programs are administered largely by the same personnel.

Persons in receipt of old age assistance who reach age 70 are transferred to the universal pension rolls without further action on their part. Other persons make application to the Regional Director located at their provincial Capital. The Regional Director for the Yukon and Northwest Territories is located at Ottawa.

In Alberta, British Columbia and Saskatchewan the provincial governments make supplementary payments to recipients of old age security who qualify under a means and residence test. In Alberta and British Columbia the allowance cannot exceed \$15 per month; in Saskatchewan, it is a flat \$2.50 per month rising to a maximum of \$20 per month for certain recipients. In some provinces and in the Yukon, recipients of the pension who are in special need may also receive relief.

3.—Old Age Security Statistics by Province, Years Ended Mar. 31, 1954 and 1955

NOTE.—Figures for 1952 and 1953 are given in the 1955 Year Book, p. 261.

Province and Year	Pensioners in March	Pensions Paid (net)	Province or Territory and Year	Pensioners in March	Pensions Paid (net)
	No.	\$		No.	\$
Newfoundland—			Manitoba—		
1954.....	15,343	7,242,820	1954.....	42,592	20,052,895
1955.....	15,693	7,459,680	1955.....	44,591	21,051,155
Prince Edward Island—			Saskatchewan—		
1954.....	6,669	3,203,780	1954.....	42,505	20,111,120
1955.....	6,786	3,261,800	1955.....	44,821	21,202,779
Nova Scotia—			Alberta—		
1954.....	36,961	17,702,477	1954.....	42,868	20,137,730
1955.....	37,801	18,149,526	1955.....	45,384	21,418,246
New Brunswick—			British Columbia—		
1954.....	26,288	12,606,600	1954.....	85,191	39,880,100
1955.....	27,014	12,945,905	1955.....	90,201	42,449,810
Quebec—			Yukon and N.W.T.—		
1954.....	152,682	72,032,527	1954.....	469	225,520
1955.....	158,109	74,724,977	1955.....	540	245,360
Ontario—			Canada—		
1954.....	264,831	125,775,222	1954.....	716,399	338,970,791
1955.....	274,680	130,296,095	1955.....	745,620	353,205,333

Subsection 3.—Government Annuities*

Under the Government Annuities Act (R.S.C. 1952, c. 132), passed in 1908, the Federal Government carries on a service to assist Canadians to make provision for old age. The Act is administered by the Minister of Labour.

A Canadian Government annuity is a fixed yearly income purchased from and paid by the Government of Canada. The annuity is payable in monthly instalments for life, or for life and guaranteed for a period of years. The minimum annuity is \$10 and the maximum \$1,200 a year or the actuarial equivalent if the annuity is to reduce by the amount of payments under the Old Age Security Act. Annuity contracts may be deferred or immediate. Deferred annuities are purchased by periodic or single premiums. Immediate annuity contracts provide immediate income. Annuities may now be arranged to reduce by \$40 per month at age 70 to fit in with payments under the Old Age Security Act.

The property and interest of the annuitant are neither transferable nor attachable. In the event of the death of the annuitant before a deferred annuity vests, all money paid is refunded with interest to the purchaser or his legal representative. Provision is made in the Act for group annuity contracts whereby employers may contract for the purchase of annuities on behalf of their employees, or associations on behalf of their members, the purchase money being derived partly from wages and partly from employer contributions. Group annuity plans now in effect cover a variety of industries and many municipal corporations throughout Canada. Annuities arising from individual contracts are taxable as to the interest portion of the annuity payment and the return-of-capital portion is exempt; annuities arising from approved pension plans are fully taxable but the employee and the employer are entitled to tax exemption year by year on their annual contributions to the pension plan.

* Revised in the Government Annuities Branch, Department of Labour, Ottawa.

From Sept. 1, 1908, the date of the inception of the system, to Mar. 31, 1955 the total number of annuity contracts and certificates issued excluding replacements was 393,232. On the latter date 68,130 annuities were being paid amounting to \$32,766,286 annually and 281,531 deferred annuities were being purchased. The net total amount of purchase money received up to Mar. 31, 1955 was \$906,261,559.

Up to Mar. 31, 1955, 966 corporations, institutions and associations, as compared with 949 up to Mar. 31, 1954, had entered into agreements with the Government to purchase annuities. Under these arrangements 164,012 employees or members were holding certificates for purchase of deferred annuities as compared with 147,523 one year earlier. The number of certificates issued under groups in the year 1954-55 was 18,300 as compared with 13,161 for 1953-54.

4.—Government Annuities Contracted and Purchase Money Received, Years Ended Mar. 31, 1936-55

NOTE.—Figures for 1909 to 1935 will be found in the 1942 Year Book, p. 873.

Year	Contracts and Certificates	Purchase Money Received	Year	Contracts and Certificates	Purchase Money Received
	No.	\$		No.	\$
1936	6,357	21,281,981	1946	25,538	46,954,536
1937	7,806	23,614,824	1947	43,585	72,009,764
1938	5,724	13,550,483	1948	40,945	75,067,827
1939	8,518	18,189,319	1949	36,332	64,311,116
1940	9,014	20,001,533	1950	21,078	63,133,242
1941	11,994	18,803,645	1951	21,775	59,648,323
1942	8,593	19,630,645	1952	17,038	57,548,671
1943	9,608	20,415,365	1953	18,433	62,787,282
1944	19,354	26,600,098	1954	18,466	64,380,327
1945	15,796	33,076,436	1955	24,542	68,594,250

5.—Government Annuities Fund Statements, Years Ended Mar. 31, 1951-55

Item	1951	1952	1953	1954	1955
	\$	\$	\$	\$	\$
Assets					
Fund at beginning of fiscal year.....	563,182,111	620,398,995	675,931,703	736,540,927	798,454,014
Receipts during the year, less payments.....	57,216,884	55,532,708	60,609,224	61,913,087	66,089,024
Fund at end of fiscal year.....	620,398,995	675,931,703	736,540,927	798,454,014	864,543,038
Liabilities					
Value of outstanding contracts.....	620,398,995	675,931,703	736,540,927	798,454,014	864,543,038
Receipts					
Immediate annuities.....	6,954,048	4,437,155	5,823,356	5,620,132	8,086,323
Deferred annuities.....	53,101,159	53,438,891	57,347,618	59,580,358	61,956,789
Interest on fund.....	22,680,245	24,671,668	26,994,535	29,306,356	31,638,652
Amount transferred to maintain reserve.....	659,787	940,138	743,616	98,911	371,521
Totals, Receipts.....	83,395,239	83,487,852	90,909,125	94,605,757	102,053,285
Payments					
Payments under vested annuity contracts....	23,964,819	25,820,310	27,693,728	29,749,159	31,943,115
Return of premiums with interest.....	1,806,652	1,807,459	2,222,482	2,123,349	2,572,284
Return of premiums without interest.....	406,884	327,375	383,691	820,162	1,448,862
Totals, Payments.....	26,178,355	27,955,144	30,299,901	32,692,670	35,964,261

6.—Numbers and Values of Annuity Contracts as at Mar. 31, 1954 and 1955

Classification	1954			1955		
	Contracts	Amount of Annuities	Value at Mar. 31 of Contracts in Force	Contracts	Amount of Annuities	Value at Mar. 31 of Contracts in Force
	No.	\$	\$	No.	\$	\$
Immediate ordinary.....	27,096	10,555,822	96,652,531	29,300	11,523,910	104,098,205
Immediate guaranteed.....	32,482	17,177,733	193,635,041	33,140	17,833,023	199,412,496
Immediate last survivor.....	4,354	2,111,219	28,072,800	4,286	2,102,382	27,554,176
Immediate reducing at age 70....	473	436,762	3,923,440	1,404	1,306,971	11,115,385
Deferred.....	261,277	1	476,170,202	281,531	1	522,362,776
Totals.....	325,682	30,281,536	798,454,014	349,661	32,766,286	864,543,038

¹ Undetermined.

Subsection 4.—Other Federal Government Programs

Unemployment Insurance and National Employment Service.—In 1940, by an amendment to the British North America Act, the Federal Government was given jurisdiction in the field of unemployment insurance and the Unemployment Insurance Act was passed, establishing a national system of unemployment insurance which is outlined in Chapter XVIII.

The National Employment Service is operated in conjunction with the unemployment insurance scheme. It is administered through local employment and claims offices and supervised by the Department of Labour. Statistics of positions offered and placements made are given in Chapter XVIII.

Prairie Farm Assistance.—The Prairie Farm Assistance Act is administered by the Department of Agriculture; a description of the legislation is given in Chapter IX.

Welfare Services for Indians and Eskimos.—The welfare of Indians and Eskimos is administered by the Department of Citizenship and Immigration and the Department of Northern Affairs and National Resources, respectively; this field is covered in the Population Chapter, pp. 173 and 174.

Section 2.—Federal-Provincial Programs

Unemployment Aid.—Discussions took place at a federal-provincial conference called in April 1955 to consider the problem of relief for needy unemployed persons not covered by unemployment insurance. This was followed by technical sessions at which various suggestions for sharing the costs were considered. In June the Prime Minister reported to the House of Commons that provincial representatives had decided to consider with their governments a modified federal proposal under which the Federal Government would accept one-half the cost of relief for the number of unemployed in each province in excess of 0.45 p.c. of the population, with certain adjustments being made to accommodate special situations in some provinces. This starting point would make it unnecessary for the Federal Government to make any distinction between persons who are employable and those who are not employable. Following consideration by the provinces the details of the plan are to be embodied in agreements with each province joining therein.

Subsection 1.—Old Age Assistance

The Old Age Assistance Act (R.S.C. 1952, c. 199), effective January 1952, provides for federal financial aid to the provinces for assistance to persons aged 65 or over subject to a residence qualification of at least 20 years. The payment of old age security commencing at age 70 makes old age assistance effective from ages 65 to 69. Within the limits of the federal Act each province is free to fix the amount of the maximum assistance payable, the maximum income allowed and other conditions of eligibility. The Federal Government's contribution per recipient cannot exceed 50 p.c. of \$40 per month or of the assistance paid, whichever is less.

For an unmarried person the total income allowed including assistance cannot exceed \$720 a year; for a married couple, \$1,200 a year; where the spouse is blind within the meaning of the Blind Persons Act the total income of the couple cannot exceed \$1,320 a year. The exact pension payable in each case depends on the amount of outside income and the resources of the applicant and his spouse. To be eligible for assistance the applicant must not be in receipt of an allowance under the Blind Persons Act or the War Veterans Allowance Act. The applicant must have resided in Canada for at least 20 years immediately preceding the commencement of the assistance but may have certain temporary absences; where the applicant has not so resided for the 20 years he must have been physically present in Canada prior to the 20 years for a total period equal to twice the total of the absences during the 20 years.

The program became effective in January 1952 in all areas except Newfoundland, Yukon Territory and the Northwest Territories where the effective date was Apr. 1, 1952. The maximum assistance is \$40 per month in all provinces and territories except in Newfoundland where it is \$30 per month. Administrative responsibility is vested in the province; the provincial plan must be approved by the Governor in Council. Assistance is paid by the province with federal reimbursement.

In Alberta, British Columbia and the Yukon Territory the provincial or territorial governments make supplementary payments to recipients of old age assistance who qualify under a means and residence test. In Alberta and British Columbia the allowance cannot exceed \$15 per month and in the Yukon it cannot exceed \$10 per month. In some provinces recipients of old age assistance who are in special need may also receive relief.

7.—Old Age Assistance Statistics by Province, Years Ended Mar. 31, 1954 and 1955

NOTE.—Figures for 1952 and 1953 are given in the 1955 Year Book, p. 265.

Province or Territory and Year	Recipients in Month of March	Average Amount of Monthly Assistance	P.C. of Recipients to Population Age 65-69 ¹	Federal Government Contribution During Year
	No.	\$	p.c.	\$
Newfoundland.....1954	5,124	29.21	55.70	896,429
.....1955	5,073	29.38	54.55	898,973
Prince Edward Island.....1954	594	25.88	16.97	85,986
.....1955	612	27.54	18.00	98,531
Nova Scotia.....1954	5,173	33.47	26.53	1,028,756
.....1955	5,178	33.63	26.55	1,063,165
New Brunswick.....1954	5,756	36.93	39.42	1,248,339
.....1955	5,808	36.89	39.24	1,288,095

For footnote, see end of table.

7.—Old Age Assistance Statistics by Province, Years Ended Mar. 31, 1954 and 1955
—concluded

Province or Territory and Year	Recipients in Month of March	Average Amount of Monthly Assistance	P.C. of Recipients to Population Age 65-69 ¹	Federal Government Contribution During Year
	No.	\$	p.c.	\$
Quebec.....1954	32,391	37.50	32.39	7,187,259
.....1955	32,882	37.48	32.46	7,392,923
Ontario.....1954	21,587	36.83	13.36	4,726,153
.....1955	22,061	36.86	13.52	4,858,693
Manitoba.....1954	4,838	37.77	17.16	1,112,322
.....1955	4,847	37.64	17.19	1,119,639
Saskatchewan.....1954	4,584	36.71	15.81	1,017,535
.....1955	4,853	37.22	16.79	1,089,704
Alberta.....1954	5,014	36.60	16.60	1,107,190
.....1955	5,341	36.67	17.74	1,165,332
British Columbia.....1954	8,144	37.72	15.60	1,863,052
.....1955	7,868	37.76	15.25	1,872,909
Yukon Territory.....1954	4	40.00	2.15	880
.....1955	12	38.41	6.45	2,220
Northwest Territories.....1954	64	38.40	37.21	14,251
.....1955	90	38.11	52.33	18,942
Canada.....1954	93,273	36.50	20.80	20,288,152
.....1955	94,625	36.56	21.01	20,869,126

¹ Estimated population as at June 1 of each year for the provinces and 1951 Census data for the Territories.

Subsection 2.—Allowances for the Blind

The Blind Persons Act (R.S.C. 1952, c. 17), effective January 1952, was amended in 1955 to lower the eligible age and to increase the income limits. The Act as amended provides for financial aid to the provinces toward the provision of allowances to blind persons aged 18 (formerly 21) or over. Within the limits of the federal Act each province is free to fix the amount of the maximum allowance payable and the maximum income allowed. The Federal Government's contribution per recipient cannot exceed 75 p.c. of \$40 per month or of the allowance paid, whichever is less.

For an unmarried person, the total income allowed including the allowance cannot exceed \$960 (formerly \$840) a year; for an unmarried person with one or more dependent children, \$1,160 (formerly \$1,040); for a married couple, \$1,560 (formerly \$1,320) a year; where the spouse is also blind the total income of the couple cannot exceed \$1,680 (formerly \$1,440) a year. The exact allowance payable in each case depends on the amount of outside income and the resources of the applicant and his spouse. To be eligible for an allowance the applicant must not be in receipt of assistance under the Old Age Assistance Act, of an allowance under the War Veterans Allowance Act, of a pension under the Old Age Security Act or of a pension in respect of blindness under the Pensions Act. The applicant must have resided in Canada for at least 10 years immediately preceding the commencement of the allowance but may have certain temporary absences; where the

applicant has not so resided for the 10 years, he must have been physically present in Canada prior to the 10 years for a total period equal to twice the total of the absences during the 10 years.

The program became effective in January 1952 in all provinces and in the Yukon and Northwest Territories. Administrative responsibility is vested in the province but the provincial plan must be approved by the Governor in Council. The allowances are paid by the province with federal reimbursement.

In Alberta, British Columbia, Saskatchewan and the Yukon Territory, the provincial or territorial governments make supplementary payments.

8.—Statistics of Allowances for the Blind by Province, Years Ended Mar. 31, 1954 and 1955

NOTE.—Figures for 1952 and 1953 are given in the 1955 Year Book, p. 267.

Province or Territory and Year	Recipients in Month of March	Average Amount of Monthly Assistance	P.C. of Recipients to Population Age 20-69 ¹	Federal Government Contribution During Year
	No.	\$	p.c.	\$
Newfoundland.....1954	336	39.49	0.177	121,952
.....1955	338	39.70	0.174	119,970
Prince Edward Island.....1954	90	37.12	0.166	28,126
.....1955	95	37.65	0.171	30,516
Nova Scotia.....1954	718	38.35	0.201	250,567
.....1955	706	38.57	0.195	247,788
New Brunswick.....1954	731	39.49	0.265	263,726
.....1955	706	39.49	0.251	256,748
Quebec.....1954	2,949	38.96	0.124	1,057,842
.....1955	2,866	39.18	0.118	1,028,750
Ontario.....1954	1,710	38.70	0.057	602,041
.....1955	1,731	38.73	0.057	607,709
Manitoba.....1954	411	38.92	0.086	148,244
.....1955	405	39.13	0.084	145,014
Saskatchewan.....1954	366	38.73	0.075	125,796
.....1955	374	38.58	0.076	132,670
Alberta.....1954	400	38.57	0.069	135,586
.....1955	409	38.59	0.069	140,149
British Columbia.....1954	488	39.20	0.066	174,964
.....1955	474	39.02	0.063	170,796
Yukon Territory.....1954	2	40.00	0.035	720
.....1955	2	40.00	0.035	900
Northwest Territories.....1954	13	39.23	0.157	4,537
.....1955	16	40.00	0.188	5,175
Canada.....1954	8,214	38.88	0.096	2,914,101
.....1955	8,122	38.99	0.094	2,886,185

¹ Estimated population as at June 1 of each year for the Provinces and 1951 Census data for the Territories.

A description of the pensions payable to blind persons under the Old Age Pensions Act 1927, repealed in 1951 (and replaced by the Old Age Assistance Act, effective January 1952) will be found in the 1951 Year Book, pp. 234-235. The final statistics of operations under that program are given in the 1952-53 Year Book, p. 267.

Subsection 3.—Allowances for Disabled Persons

Under the Disabled Persons Act (2-3 Elizabeth II, c. 55) of June 26, 1954, effective January 1955, the Federal Government provides financial aid to the provinces toward the provision of allowances to persons aged 18 or over who are totally and permanently disabled.* Within the limits of the Federal Act each province is free to fix the amount of the maximum allowance payable and the maximum income allowed. The Federal Government's contribution per recipient cannot exceed 50 p.c. of \$40 per month or of the allowance paid, whichever is less.

For an unmarried person, the total income including the Federal allowance cannot exceed \$720 a year; for a married couple the limit is \$1,200 a year except that if the spouse is blind within the meaning of the Blind Persons Act, the aggregate income of the couple cannot exceed \$1,320 a year. The exact allowance payable in each case depends on the amount of outside income and the resources of the applicant and spouse. To be eligible for an allowance the applicant must not be in receipt of an allowance under the Blind Persons Act or the War Veterans Allowance Act, assistance under the Old Age Assistance Act, a pension under the Old Age Security Act, or a mother's allowance under provincial legislation. The applicant must have resided in Canada for at least 10 years immediately preceding the commencement of the allowance but may have had certain temporary absences; where the applicant has not so resided for the 10 years, he must have been resident in Canada prior to the 10 years for a total period equal to twice his absences in that period.

An applicant is considered to be totally and permanently disabled when he is suffering from a major physiological, anatomical or psychological impairment, verified by objective medical findings. The impairment must be one that is likely to continue without substantial improvement during his lifetime and one to which the concept of cure cannot be applied. Also the person must be severely limited in activities pertaining to self-care and normal living as a result of the impairment. However an applicant is not deemed to be permanently and totally disabled when a favourable rehabilitation prognosis is obtained or approved therapeutic measures are recommended by the provincial authority, and the necessary rehabilitation services or therapeutic measures are available.

The provincial authorities must suspend the payment of the allowance when in its opinion the recipient unreasonably neglects or refuses to comply with or to avail himself of training, rehabilitation or facilities provided by or available in the Province.

The allowance is not payable to a patient or resident in a mental institution, tuberculosis sanatorium, home for the aged, infirmary or institution for the care of incurables. A recipient who is resident in a nursing home or a private, charitable or public institution is eligible for the allowance only if the major part of the cost of his accommodation is being paid by himself or his family. When a recipient is required to enter a public or private hospital the allowance may be paid for no more than 62 days of hospitalization in a calendar year. For the period that a recipient is in hospital for therapeutic treatment for his disability or rehabilitation as approved by the provincial authority the allowance may continue to be paid.

* The Provinces of Newfoundland, Ontario and Alberta have operated their own programs for needy disabled persons since 1949, 1952 and 1953, respectively. All three programs continue and now receive reimbursement from the Federal Government in accordance with the terms of the new federal-provincial program.

Agreements became effective January 1955 in all provinces except Newfoundland and British Columbia when the effective date was April 1955. The maximum allowance is \$40 per month in all provinces. Administrative responsibility for the program is vested in the province and the provincial plan must be approved by the Governor in Council. The allowances are paid by the province with federal reimbursement.

9.—Statistics on Allowances for Disabled Persons by Province, Year Ended Mar. 31, 1955¹

Province or Territory	Recipients in Month of March	Average Amount of Allowance Monthly	Federal Government Contribution During Year
	No.	\$	\$
Newfoundland ² .....	...	...	...
Prince Edward Island ³ .....	..	..	..
Nova Scotia	285	33.39	12,141
New Brunswick	177	39.46	8,183
Quebec ³ .....	..	..	..
Ontario	6,623	39.36	389,061
Manitoba	45	39.66	8,188
Saskatchewan	36	37.52	1,806
Alberta ³ .....	..	..	..
British Columbia ² .....	...	...	...
Totals, Five Provinces	7,166	39.12	419,379

¹ Program in effect for the last three months of the fiscal year only.

² Program became effective Apr. 1, 1955.

³ By Mar. 31, 1955, no payments had yet been made by the Federal Government to this province, in which the program became effective Jan. 1, 1955. Payments for April 1955 will include certain amounts retroactive to Jan. 1, 1955.

Subsection 4.—National Physical Fitness Program

The National Physical Fitness Act was repealed in June 1954 but seven provinces and the Northwest Territories continued to receive financial assistance from the Federal Government until the expiry of their agreements on Mar. 31, 1955. The Act had provided that an amount not exceeding \$232,000 annually be granted to the provinces on a matching per capita basis for the promotion of physical fitness and recreation programs. The amounts made available to the individual provinces are shown in the 1954 edition of the Year Book, p. 253. With the repeal of the Act, the National Council on Physical Fitness, which it established, ceased to function.

During 1954-55 the Physical Fitness Division continued to function within the Department of National Health and Welfare, providing a variety of professional, consultative, and informational services for federal and provincial government departments and national organizations. It acted as a clearing house for the dissemination of information and provided material on fitness, recreation, physical education, sports, hobbies, drama, and other cultural activities and on the organization and administration of community and specialized programs in Canada and other countries. The Preview Library Service for visual aids was continued and extended to five centres in the Northwest Territories. Close liaison was maintained with other countries and with the Commonwealth in particular.

With the cessation of services under the National Physical Fitness Act the Assistant Director of Physical Fitness was appointed Consultant, Fitness and Recreation, office of the Deputy Minister (Welfare), Department of National Health and Welfare.

Subsection 5.—Training Programs

Under the Vocational Training Co-ordination Act of 1942 (R.S.C. 1952, c. 286) the Federal Department of Labour, in co-operation with the provincial governments, carries on various training projects. Details of these schemes will be found in Chapter XVIII, Section 6.

Section 3.—Provincial Programs

Subsection 1.—Mothers' Allowances

All provinces have statutory provision for allowances to enable certain needy mothers to remain at home to care for their dependent children. The total cost of this assistance is paid from provincial funds except in Alberta where a portion of each allowance is charged to the municipality of residence. In Newfoundland the Mothers' Allowances Act was repealed and the Mothers' Allowances program incorporated in the Social Assistance Act 1954 which became effective Apr. 1, 1955.

Subject to the conditions of eligibility which vary from province to province the allowances are payable to applicants who are widowed or whose husbands are mentally incapacitated and, except in Alberta, to those whose husbands are physically disabled and unable to support their families. They are also payable, except in Nova Scotia, to deserted wives who meet specified conditions; in several provinces to mothers who have been granted a divorce or legal separation and in some to unmarried mothers. Adoptive mothers and foster mothers are also eligible under certain circumstances. In 1955 Saskatchewan made provision for an allowance to be paid under certain conditions on behalf of a mother or child confined to a hospital or sanatorium. In 1955 also Ontario extended the same mothers' allowances benefits to Indian mothers as to other residents of the Province.

The age limit for children is 16 years except in Manitoba where it is 15 years and in Newfoundland where it is 17 years. Provision is made in most provinces to extend payment for a specified period if the child is attending school or if he is physically or mentally handicapped.

In all provinces applicants must satisfy conditions of need and residence but both the amount of outside income and resources allowed and the length of residence required prior to application vary considerably, the latter for example from one year in Saskatchewan, Ontario and Newfoundland to five years in Quebec. All provinces require that the applicant be resident at the time of application and generally that the child or children live with the recipient, and most provinces require that they continue to live in the province while in receipt of an allowance. In the six provinces in which British or Canadian nationality is a condition of eligibility the applicant may qualify for mothers' allowances if the mother or father or child meet the specified provisions.

In each province the relevant Act is administered by public welfare authorities. Most provinces have a mothers' allowances board or commission which makes the final decision regarding eligibility and the amount of allowance granted, or acts in an advisory capacity. In some provinces local advisory committees are also appointed. Rates of benefit as of June 1955 are given in Table 10, pp. 290-291 and the number of families and children assisted and amounts of benefits paid as at Mar. 31, 1953, 1954 and 1955 are given in Table 11.

10.—Maximum Monthly Rates under Provincial Mothers' Allowances Legislation, June 1955

Province	Mother and One Child	Each Additional Child	Disabled Father at Home	Family Maximum	Supplementary
Nfld.....	\$25	\$5	\$10	There is no limit to the number who may benefit	Up to \$30 monthly if necessary for care and maintenance
P.E.I.....	\$25	\$5	No additional allowance granted	\$50	None granted
N.S.....	No set maximum; rates are based on average family income for community in which family lives		No special provision; included in budget on which allowance is based	\$80	None granted
N.B.....	\$35	\$10	No additional allowance granted	\$80	Director may grant an additional \$10 for rent if circumstances require it but only if allowance paid is below maximum
Que.....	\$35 (population under 5,000) \$40 (population 5,000 or over)	\$1 for 2nd, 3rd, 4th, 5th \$2 for 6th, 7th \$3 for each subsequent child	\$5	None set (Minimum granted \$5)	Those beneficiaries whose income and allowance are insufficient to meet their needs may obtain a special monthly allowance under the Public Charities Act. These allowances are paid through social agencies
Ont.....	\$50 for mother and one child \$24 for foster mother and one child	\$10 with \$48 for foster mother and 2 children, \$10 for each additional foster child	\$10	None set	\$20 where need is apparent to the Director. A fuel allowance of up to \$24 a month may be granted from Sept. 1 to Mar. 31

Man.....	\$51	\$10.00 for child aged 1-6 years \$13.00 for child aged 7-11 years \$15.50 for child aged 12-14 years (subject to deductions for fourth and each additional child)	\$17.25	\$150 (\$167.25 if disabled father at home)	Up to \$25 where necessary. Fuel allowance granted for seven months
Sask.....	\$40 for mother and one child \$30 for guardian and one child	\$10 for 2nd \$5 for each subsequent child (with parent or guardian)	\$10 (also if confined to a nursing home or sanatorium)	\$90 (\$100 if disabled father at home)	The local municipality may grant supplementary aid under the Social Assistance program. Costs are shared between the Province and municipality on a 50-50 basis. In unorganized territories the Province assumes full cost
Alta.....	\$50 (An allowance of \$80 may be granted when income or assistance does not exceed \$120 per year)	\$20 for 2nd child \$15 for 3rd child \$10 for 4th to 9th	Not applicable	\$145	Municipalities of residence may grant additional aid 60 p.c. of the cost of which is reimbursed by the Province. In unorganized territories the Province assumes full cost
B.C.....	\$42.50 plus \$27 from Social Allowance funds	\$7.50 plus \$6.50 from Social Allowance funds	\$7.50 plus \$6.50 from Social Allowance funds	A maximum is set but there is no limit to the number who may benefit	Extra expenditures for additional needs such as repairs and emergencies; also for dietary extras, housekeeper services, prenatal allowances and certain assistance to TB patients and contacts are met through Social Allowance funds. Costs shared by Province and municipalities on 80-20 basis but Province meets total cost of provincial cases and of prenatal allowances

¹ In Newfoundland the Mothers' Allowances program was incorporated in the Social Assistance Act, effective Apr. 1, 1955.

11.—Mothers' Allowances by Province as at Mar. 31, 1954-55

Province and Year	Families Assisted	Children Assisted	Benefits Paid	Province and Year	Families Assisted	Children Assisted	Benefits Paid
	No.	No.	\$		No.	No.	\$
Newfoundland—				Ontario—			
1954.....	3,031	8,204	1,227,696	1954.....	7,050	15,896 ¹	6,219,337
1955.....	3,152	8,605	1,324,438	1955.....	7,294	16,496	6,545,452
P. E. Island—				Manitoba—			
1954.....	224 ²	572 ²	66,413	1954.....	1,099	2,848	1,006,507
1955.....	237	611	73,250	1955.....	1,202	3,131	1,131,897
Nova Scotia—				Saskatchewan—			
1954.....	2,313	5,975	1,444,934	1954.....	2,272	5,925	1,217,309
1955.....	2,077	5,522	1,504,575	1955.....	2,397	6,359	1,252,019
New Brunswick—				Alberta—			
1954.....	2,096	6,059	1,273,836	1954.....	1,609	3,632	1,112,803
1955.....	2,087	..	1,301,900	1955.....	1,719	3,904	1,198,414
Quebec—				British Columbia—			
1954.....	19,403 ¹	56,269 ¹	7,621,430	1954.....	426	953	247,046 ¹
1955.....	20,024	58,070	7,956,309	1955 ²	393	900	225,000 ¹

¹ Not including \$140,873 and an estimated \$176,000 paid as supplementation from social allowance funds in 1954 and 1955 respectively. ² Estimated.

Subsection 2.—Provincial Welfare Services

The care and protection of neglected and dependent children, care of the aged, social assistance or relief, and other special welfare services are governed by provincial legislation although in many areas responsibility for services rests with municipal or voluntary organizations. Though the programs and the methods of financing vary considerably most provinces share the costs of some or all of the municipal services in organized areas and assume the total cost in unorganized territories. The medical services available to social assistance recipients are described at pp. 236-248, mothers' allowances are dealt with in the immediately preceding subsection, old age assistance at pp. 284-285, allowances for the blind at pp. 285-287 and allowances for totally and permanently disabled persons at pp. 287-288. The social assistance or relief programs described in the following summary are those in effect prior to any agreements which may be made as a result of federal-provincial discussions on unemployment aid (*see* p. 283).

Newfoundland.—Provincial welfare services are administered by the Department of Public Welfare through a number of regional welfare centres.

Child Care and Protection.—Child welfare has developed largely as a public service and is administered by the Child Welfare Division. Neglected children, made wards of the Director, are placed in foster or adoptive homes or in institutions. The Department pays for the maintenance of wards, grants subsidies for children admitted to orphanages administered by religious organizations, and contributes towards the cost of educating blind and deaf-mute children in institutions outside the Province. The Division operates an Infants' Home, providing short term care.

The Division of Corrections, established in 1953, deals with juvenile delinquents and adult offenders and administers correctional institutions for boys and girls. The Corrections Act, 1953 provides for the establishment of a Youth Guidance Authority, an Adult Guidance Authority and classification centres.

Care of the Aged.—The Province maintains a Home for the Aged and Infirm at St. John's and also pays in whole or in part the cost of maintaining needy old people in the Salvation Army Home, in licensed boarding homes or in private homes.

Social Assistance.—Under the Social Assistance Act of 1954, which came into effect in April 1955, assistance is provided to the categories previously dealt with under the Dependents' Allowances Act and the Mothers' Allowances Act. Aid for certain needy able-bodied persons is provided under the Health and Public Welfare Act. For a number of years the Provincial Government provided pensions for needy disabled persons; since Apr. 1, 1955 the Province has participated in the new federal-provincial scheme for totally and permanently disabled persons (*see pp. 287-288*).

Prince Edward Island.—The Department of Health and Welfare is responsible for the administration of provincial welfare services.

Child Care and Protection.—Under the Children's Protection Act, neglected or delinquent children are placed under the guardianship of the Director of Child Welfare. They are cared for in inspected foster or adoptive homes, boarding homes or children's institutions. Provincial grants are made to child welfare agencies and to the two private orphanages, one Protestant and one Roman Catholic. Juvenile Courts are under the Attorney General's Department, and juvenile delinquents are cared for at the expense of the Department of Health and Welfare in correctional institutions of neighbouring provinces.

Care of the Aged.—The aged and infirm are cared for in Falconwood Mental Hospital and in two provincial infirmaries.

Social Assistance.—The Department provides direct social assistance in rural areas and by agreement assumes 50 p.c. of the cost of assistance granted by the City of Charlottetown and the incorporated towns and villages. The Department also operates a province-wide program of financial aid to families where the breadwinner is suffering from tuberculosis and is unable to support the family.

Nova Scotia.—Provincial welfare services are administered by the Department of Public Welfare through a number of regional offices.

Child Care and Protection.—The Child Welfare program, including the inspection of institutions and the licensing of foster and maternity homes, is under the Director of Child Welfare. The Director supervises the 12 Children's Aid Societies to whom child care and protection is delegated and directly administers the program in the four areas in which societies are not organized. By court decision a neglected child may be made a ward of the Director or of a Children's Aid Society. Each Society receives annually a provincial grant of up to \$2,000; a sum equal to 50 p.c. of funds received through private campaigns or from municipalities for general operating expenses; and an additional grant of not less than \$1,000, the maximum determined on a per capita basis. The cost of maintaining wards is shared by the Province and municipality of residence.

The Department operates the Nova Scotia Training School for mentally defective children and the Nova Scotia School for Boys for juvenile delinquents. It is also responsible for the operation of the six Juvenile Courts and the supervision of their probation staffs. The municipality of residence is responsible for the maintenance of children in reformatories although the Province may contribute also if the reformatory complies with specified standards.

Care of the Aged.—The aged are cared for in municipal or county homes, in homes operated by religious or private organizations and in private boarding homes where the municipality of residence may contribute to the cost of maintenance. Homes for the aged are subject to provincial inspection but they do not receive direct financial assistance from the Province.

Social Assistance.—Relief to unemployables is a local responsibility under the Poor Relief Act except in the cities of Halifax and Sydney which provide welfare relief under their charters.

New Brunswick.—The Department of Health and Social Services administers provincial welfare legislation.

Child Care and Protection.—Under the Children's Protection Act, administered by the Minister of Health and Social Services, responsibility for protection and placement services is largely delegated to Children's Aid Societies. Guardianship of a neglected child may be vested in a Society, in the Director of Child Welfare or in the Court. Orphanages are operated by religious, private or municipal organizations. Boarding homes, with some exceptions, are licensed and are subject to the provincial inspection required for all child care institutions. The Province and the municipality of residence each contributes towards the maintenance of wards committed to an institution, and the Province also reimburses municipalities for one-half of the cost of maintaining wards placed in foster homes, up to a prescribed maximum. The Department may place blind or deaf-mute children in special schools outside the Province. Juvenile Courts are under the Attorney General's Department and delinquent boys may be placed in the Provincial Industrial School for Boys which reports to the Minister of Health and Social Services.

Care of the Aged.—Homes for the aged are operated under municipal, religious, fraternal or private auspices and are subject to provincial inspection but they receive no direct financial support from the Province.

Social Assistance.—Relief to unemployables is a local responsibility and is generally discharged through the provision of institutional or indoor relief to those in need. Outdoor relief is provided in certain centres.

Quebec.—Major responsibility for the administration of provincial welfare measures is shared by the Department of Health and the Department of Social Welfare and Youth. The former administers the Quebec Public Charities Act which embodies the Government's policy of granting subsidies to religious and private institutions where they exist rather than creating public services. Grants are made to these institutions on a per diem basis with the Province, the municipality of residence and the institution sharing the cost of maintenance of indigent persons admitted for care. The Department of Social Welfare and Youth is responsible for preventive and rehabilitative work among neglected and dependent children and for grants to recreation and welfare agencies in addition to certain important educational functions. Social Welfare Courts are however under the jurisdiction of the Department of the Attorney General.

Child Care and Protection.—Needy or abandoned children are generally cared for in institutions such as orphanages, nurseries and other homes, assisted under the Quebec Public Charities Act, although there is an increasing use of foster homes by child welfare agencies. However children who are found by a Social Welfare Court or other court to be particularly exposed to moral or physical dangers may be admitted to recognized youth protection schools administered by the Department of Social Welfare and Youth. Municipalities of residence are required by law to contribute 50 p.c. of the operating and maintenance costs of these schools but in practice the Province pays approximately 87 p.c. of all expenses and the entire cost of new construction. The Social Welfare Courts have statutory responsibility in connection with child and youth protection and certain other provincial programs and also serve as Family Courts.

Children who have been exposed to tuberculosis but who have not been infected are placed with rural families under the supervision of the Department of Health in co-operation with child welfare agencies.

Care of the Aged.—Institutional care for indigent old people is provided under the Quebec Public Charities Act through private institutions. Under the same Act family welfare agencies administer home allowances to needy old people who do not require institutional care.

Social Assistance.—Assistance is given under the Public Charities Act, usually in the form of institutional care. The Department of Colonization operates a program whereby families in need are settled on the land in newly opened districts and granted financial aid until they become self-supporting. In these areas a disability pension scheme is linked to a program of free medical services.

Ontario.—Provincial welfare services are administered by the Department of Public Welfare. The Province is divided into 17 welfare districts each in charge of a supervisor.

Child Care and Protection.—Three major child welfare Acts were amended and consolidated in a single new Child Welfare Act in 1954. The Act is administered by the Child Welfare Branch which supervises the local Children's Aid Societies to which responsibility for the care and protection of neglected and dependent children is delegated. Annual provincial grants to these Societies include token grants in addition to grants equal to 25 p.c. of the amounts raised through voluntary effort. In addition the Province reimburses the municipalities of residence in amounts not exceeding 25 p.c. of the net cost of maintaining children made wards of Children's Aid Societies. The Province also reimburses a municipality to the same extent where the latter has made payments under an agreement with a Children's Aid Society for the temporary care and shelter of non-wards. Children's institutions are governed by provisions of the Charitable Institutions Act and day nurseries by the Day Nurseries Act. The Province makes per diem grants for children in charitable institutions and pays one-half of the operating and maintenance costs of municipal day nurseries. Juvenile Courts are under the Attorney General's Department while training schools for juvenile offenders are operated by the Department of Reform Institutions.

Care of the Aged.—Under the Homes for the Aged Act municipalities must provide institutional or boarding home care for the aged. The Province contributes 50 p.c. of the cost of constructing approved homes or of approved additions and extensions and 50 p.c. of their net operating and maintenance costs. It also pays 50 p.c. of the cost of maintenance in approved boarding homes up to \$30 per month. Private homes for the aged are licensed, inspected and assisted under the Charitable Institutions Act which provides for grants in aid of construction equalling \$1,000 per bed and also small per diem payments on behalf of residents. The Elderly Persons Housing Aid Act provides for grants to limited-dividend housing corporations building low-rental housing for elderly persons.

Social Assistance.—Under the Unemployment Relief Act the Province reimburses municipalities, up to a prescribed maximum, for 50 p.c. of their expenditures on relief to needy unemployables and on incapacitation allowances and rehabilitative measures for single, needy, handicapped residents. In unorganized areas the program is administered and financed by the Department. The Soldiers' Aid Commission extends emergency assistance and advice to ex-servicemen and their families. For several years Ontario provided pensions for needy disabled persons; since Jan. 1, 1955 the Province has participated in the new federal-provincial scheme for the totally and permanently disabled (see pp. 287-288).

Manitoba.—The Public Welfare Division of the Department of Health and Public Welfare is responsible generally for provincial welfare services.

Child Care and Protection.—The Director of Public Welfare administers the child welfare legislation. Included in this administration is the supervision of Children's Aid Societies and of child care institutions. The Provincial Public Welfare Division provides child welfare services directly through a decentralized program of district offices in a large area of the Province. In the remainder of the Province the Director supervises the four non-denominational Children's Aid Societies in their respective territories. Neglected children may be made wards of the Director of Public Welfare or of a Children's Aid Society. Municipalities are responsible for the maintenance of wards but the Province reimburses them for a portion of these costs from the \$500,000 annual fund distributed among the municipalities in proportion to their relief and child welfare expenditures. Under agreements between the Province and the Children's Aid Societies payment of annual provincial

grants is conditional on the provision of a basic level of service and the collection of equivalent voluntary contributions; payments are based on the number and cost of social workers per 100,000 population in a representative area.

The Division provides foster home care and supervision for mental defectives placed in the custody of the Director of Public Welfare and, with the Division of Psychiatry, operates a home for mentally defective girls. The Attorney General's Department is responsible for Juvenile Courts and operates a boys' home and a girls' home for delinquents.

Care of the Aged.—Institutions and nursing homes for the aged and infirm are supervised and licensed by the Department under public health legislation.

Social Assistance.—Municipalities are responsible for assistance to needy residents, but these expenses as well as ward maintenance costs are partly reimbursed by the Province from the \$500,000 annual social assistance fund which is allocated on a *pro rata* basis. In addition, whenever the costs of social assistance and ward maintenance to any municipality exceed in a year a sum equivalent to four mills of the equalized assessment of such municipality, the Province reimburses 60 p.c. of the excess. The Province is responsible for aid to persons without municipal residence as well as for general assistance in unorganized territory.

Saskatchewan.—Provincial welfare services are administered by the Department of Social Welfare and Rehabilitation.

Child Care and Protection.—The Department provides welfare services for children throughout the Province with the exception of Saskatoon where certain responsibilities are delegated to the Children's Aid Society. Children found to be neglected are, by court order, made wards of the Minister and are placed in foster homes, adoptive homes or institutions. A portion of the maintenance costs of wards, except of children born out of wedlock, is paid by the municipality of residence. The Branch operates two institutions for the temporary care of wards. It also operates a program of non-ward care and a program for unmarried mothers.

The Corrections Branch of the Department is responsible for both adult and juvenile correctional services, supervises probation and parole services for juvenile delinquents and administers the Saskatchewan Boys' School and the provincial gaols. The Juvenile Court is presided over by a judge who devotes his time exclusively to cases of juvenile delinquency. Juveniles are discharged from correctional institutions only by parole. A Youth Guidance Authority supervises the discharging of juveniles from probation, from institutions and from parole.

Care of the Aged.—Aged and infirm persons are cared for in four provincial nursing homes and in private homes for the aged. The latter are inspected and licensed under the Housing Act which also empowers the Province and municipalities to subscribe to the stock of limited-dividend housing companies building low-rental accommodation for older persons. Capital grants, and also maintenance grants equalling \$40 per bed per year, may be made to municipalities, church or charitable organizations sponsoring approved homes or housing projects.

Social Assistance and Special Services.—The costs of assistance to needy persons are shared equally by the municipalities and the Department but the Province pays the entire cost for transients and for persons in unorganized areas. The Rehabilitation Branch provides training and placement services for the handicapped; one-half the cost of this training is borne by the Province and one-half by the municipality of residence. It is also responsible for the rehabilitation of minority groups and operates a farm where the *métis*—persons of mixed Indian and white stock who do not qualify under the Indian Act—are instructed in modern methods of farming while being paid for their work. Three schools are conducted for *métis* children.

The Department administers the Provincial Housing Act which empowers the Province to enter into public housing projects under the National Housing Act, and to stimulate construction of low-rental housing projects by limited-dividend housing corporations.

Alberta.—The Department of Public Welfare is responsible for the administration of provincial welfare measures. It has branches at the four larger centres and inspectors are located in suitable areas throughout the Province.

Child Care and Protection.—The Provincial child welfare program is directed by a Child Welfare Commission composed of five members of whom the chairman is the Superintendent of the Child Welfare Branch. Neglected children, made wards of the Government by court order or by agreement, may be placed in foster homes, adoptive homes or institutions. The cost of maintenance of wards is paid by the Province which recovers 40 p.c. of such cost from the municipality of residence. The Home Investigating Committee is responsible for the inspection and the licensing, where required, of all homes and institutions in which children are given care. The Attorney General's Department administers legislation regarding juvenile delinquency.

Care of the Aged.—Provincial grants equalling one-third of the cost or \$500 a bed, whichever is the lesser, may be made to municipalities erecting or purchasing homes with ten or more beds for aged or infirm persons. The Province also meets up to one-half of the cost incurred by municipalities for the maintenance of aged and infirm persons in homes licensed by the municipality in accordance with specified standards.

Social Assistance.—Municipalities are responsible for assistance to indigent residents but the Province is authorized to make grants to the municipalities of up to 60 p.c. of the value of the assistance. The Province, through the Department of Municipal Affairs, pays the total cost of assistance granted to transients and to residents of unorganized districts, subject to a refund of 40 p.c. from the districts. Families may be assisted through settlement on suitable farm lands. The Single Men's Division maintains two hostels and one welfare centre to care for unemployable, single, homeless men without municipal domicile. Single ex-servicemen are cared for at Calgary and Edmonton without being placed in institutions. The Province has also established nine *métis* colonies where settlers have extensive fishing, hunting and trapping rights and are encouraged to engage in lumbering, agriculture and stock-raising. Educational services are provided and government operated stores sell goods at cost price.

Widows and Disabled Persons Pensions.—Under the Widows Pension Act, widows aged 60 to 64 years inclusive may receive pensions of up to \$40 per month. Also included in this category are wives of husbands committed to mental hospitals or deserted wives who meet the conditions of need and residence and are within the designated age group.

Since 1953 the Provincial Government has provided pensions for needy disabled persons; since Jan. 1, 1955 Alberta has participated in the new federal-provincial scheme which provides allowances for the totally and permanently disabled (see pp. 287-288).

British Columbia.—The administration of provincial welfare services by the Social Welfare Branch of the Department of Health and Welfare is decentralized through district and municipal offices in six regions covering the whole Province. Generalized field service is provided by provincial social workers. The staff of the Social Welfare Branch is also responsible for welfare services required in connection with a number of programs operated by the Health Branch.

Cities and municipalities of over 10,000 population must have their own social welfare departments to administer the social assistance program and to provide case-work services. The Province pays 50 p.c. of the salaries of municipal social workers or, where more than one is needed, matches the municipal appointees, worker for worker. Smaller municipalities may have their own or amalgamated social welfare departments or they may pay for the services of the Social Welfare Branch.

Child Care and Protection.—The Child Welfare Division administers legislation governing the protection of children, including adoptions, and provides direct services except at Vancouver and Victoria where it supervises the Children's Aid Societies. Municipalities are responsible for the costs of maintaining wards but the Province reimburses them to the extent of 80 p.c. of such expenditure and pays the entire cost for children in unorganized areas. The Province pays the total maintenance cost of wards who are children of unmarried mothers. Child care institutions, boarding homes and day nurseries are licensed and supervised. The Social Welfare Branch administers an industrial school for delinquent boys and one for delinquent girls. Family case-work and rehabilitative supervision of children released from the schools are carried on in co-operation with the Psychiatric Division and the probation service of the Juvenile Courts. These courts are under the jurisdiction of the Attorney General's Department.

Care of the Aged.—The Province operates the Provincial Home for elderly, homeless men, the Provincial Infirmary for the chronically ill and the Provincial Homes for the Aged for senile and psychotic patients. It also licenses and supervises homes for the aged, nursing homes, and boarding homes, and where necessary shares with the municipalities on an 80—20 basis the costs of maintaining needy residents. The Province meets the total cost for provincial charges. It contributes 33 p.c. of the capital costs of construction of municipal nursing homes and also makes grants in aid of construction to municipalities and organizations building homes for the aged.

Social Assistance.—The social assistance program is administered by the Director of Welfare and supervised by the Family Division. It includes allowances to indigent individuals or families, counselling services, occupational training and the maintenance costs of nursing home or boarding home care. The Province reimburses the municipalities for 80 p.c. of the cost of basic and certain supplementary social assistance payments to indigent municipal residents and assumes the total cost of assistance granted for those without municipal residence.

Subsection 3.—Workmen's Compensation

In all ten provinces, legislation is in force providing for compensation for injury to a workman by accident arising out of and in the course of employment or by a specified industrial disease. A summary of provincial workmen's compensation legislation is given in Chapter XVIII.

Subsection 4.—Charitable and Benevolent Institutions

Statistics of charitable and benevolent institutions are compiled every five years. The Census of 1951 covered the 1950 activities of 533 institutions, 490 being residential institutions and 43 being day nurseries. Summary statistics are given in the 1954 Year Book, pp. 263-264.

PART III.—NATIONAL VOLUNTARY HEALTH AND WELFARE ACTIVITIES

A number of national voluntary agencies carry on important work in the provision of health and welfare services, planning and education. These agencies, some of which are described below, supplement the services of the federal and provincial authorities in many fields and play a leading role in stimulating public awareness of health and welfare needs and in promoting action to meet them.

Canadian Welfare Council.—The Council, established in 1920, is a national association of organizations and individual citizens in partnership to secure comprehensive, well-administered social services of high quality for the Canadian people. It furnishes authoritative information, technical advice and field service in the main areas of social

welfare and provides a means of co-operative planning and action by serving as a link between the public and private agencies. Member organizations include community chests and councils, private social agencies, various federal, provincial and municipal departments and other groups and individuals active in the fields of health, welfare and education.

The policies and programs of the Council are determined by its members with the help of a nationally representative elected board of governors. Aided by professional staff the members work together through Divisions of Family and Child Welfare, Recreation, Public Welfare, Delinquency and Crime, and Community Chests and Councils. Other aspects of social welfare are dealt with by special committees and departments including the Department of French Services.

Some subjects to which the Council is giving study are: labour, desertion, institutional care of children, needs of the aged, public assistance, welfare of immigrants, rehabilitation of the disabled, health insurance and civil defence. A large number of surveys on a variety of subjects have been requested by agencies, communities and provinces. Council publications include the periodicals *Canadian Welfare* and *Bien-être social canadien*, a directory of Canadian welfare services, and division bulletins, pamphlets and reports.

Canadian Conference of National Voluntary Health and Welfare Organizations.—The Conference, set up in 1949, provides national health and welfare agencies with a clearing-house and a medium for the exchange of experience and for joint study and action with a view to increasing co-operation in matters of common concern.

Canadian National Institute for the Blind.—The Institute, founded in 1918, provides extensive rehabilitative services for blind persons and carries on an active program for the prevention of blindness. Its services include home teaching of touch reading and writing, handicrafts, occupational training and placement, welfare services and financial assistance. It operates factories to afford employment for blind men and women and controls tobacco stands, news stands and industrial cafeterias managed by the sightless. Field services are provided through over 30 district offices staffed by field workers and teachers, most of whom are blind. The Institute maintains a national library of Braille and recorded literature, operates several residences and gives financial support to recreational clubs for blind persons. In the preventive field it operates eye clinics, arranges treatments and distributes literature. The Institute is supported by government grants and voluntary subscriptions.

The Canadian Red Cross Society.—The peacetime program of the Society consists of eight major services. The operation of outpost hospitals and of a blood-transfusion service are important projects in nearly all provincial divisions. Nutrition and visiting homemaker's services, and instruction in swimming and water safety are carried on in most branch areas. In addition relief is supplied in times of national and international disaster, craft training and recreational centres are operated for hospitalized war veterans, and a national inquiry bureau traces persons for the purpose of reuniting families and friends.

The Canadian Junior Red Cross promotes health and good citizenship in schoolroom branches across Canada. As part of its program the Junior Red Cross Crippled Children's Fund is maintained to assist in providing treatment for handicapped children.

The Victorian Order of Nurses for Canada.—The Victorian Order of Nurses is a voluntary public health agency, national in scope and having as its primary object the care of the sick in their own homes. Care is given, under medical direction, by visiting nurses to medical, surgical and maternity patients, a large percentage of whom would otherwise be without skilled nursing services. Patients are expected to pay the cost of the home visits but fees are scaled according to family income and service is never refused because of inability to pay.

Part time nursing service is given in industrial plants where the number of employees does not warrant full time employment of a nurse. In smaller centres where the Order provides the only public health nurse the program is usually enlarged to include school nursing, assistance at immunization clinics and child health centres, and other public health services.

The Health League of Canada.—The Health League of Canada is a voluntary association devoted to health education. Through the media of press, radio, posters, pamphlets, motion pictures and the public platform, the League keeps the public informed concerning the health value of milk pasteurization, immunization procedures for preventable diseases, proper nutritional habits, sanitary work practices by public food-handlers and organized health programs for industrial workers. The League supplements its year-round program with the annual sponsoring of a National Health and a National Immunization Week.

The Order of St. John.—The primary purpose of the Order is to teach first aid and home nursing to citizens of Canada irrespective of age, race and creed and to provide trained and organized personnel to help in time of emergency. The Canadian branch was organized in 1895 and since that time more than 1,250,000 persons have been trained and have passed examinations in various subjects. The Order has its headquarters and national offices at Ottawa, branches in every province and local centres in hundreds of cities, towns and villages throughout Canada. There are two subsidiary branches, the St. John Ambulance Association and the St. John Ambulance Brigade, the first devoted to teaching and the second to rendering voluntary public assistance as required. The Order has been selected as the official organization to train civil defence workers in basic and advanced first aid.

The Canadian Arthritis and Rheumatism Society.—The Canadian Arthritis and Rheumatism Society was incorporated in 1948 for the purpose of reducing morbidity and mortality from arthritic and rheumatic diseases. Its objectives include the raising of funds to support research, the education of professional personnel and of the general public, and the promotion and organization of treatment facilities. A Medical Advisory Board composed of leading physicians, surgeons and scientists advises on the research program, professional education and public relations.

Divisions of the Society are organized in nearly every province. Arthritis clinics sponsored by the Society have been established in more than 30 hospital outpatient departments and in addition 65 mobile physiotherapy units provide treatment and consultations to those unable to leave home.

The Canadian Mental Health Association.—The Canadian Mental Health Association operated between the years 1918 and 1950 as the National Committee for Mental Hygiene. The Association carries on a continuous educational campaign for the general public on various aspects of mental health and in co-operation with the University of Toronto initiated a mental health liaison course for selected teachers from all provinces. Provincial branches seek to promote a better understanding of the problems of mental illness and the need for community participation in mental health services. The program of the Association also includes fact-finding surveys of current mental health services and research studies of specific aspects of mental illness and social behaviour.

Other National Health Organizations.—Additional voluntary agencies are engaged in a variety of health activities including financial support and operation of educational programs, research and training, and the provision of treatment. These activities may be directed towards the general public or towards specific categories of ill or disabled persons such as the paraplegics and patients suffering from multiple sclerosis. Some organizations such as those dealing with the blind and the deaf are interested in the welfare as well as the health problems of the groups served. Organizations of professional medical and related personnel, in particular of public health personnel, assist in the development of agencies and in guiding their activities.

PART IV.—VETERANS HEALTH AND WELFARE SERVICES*

Section 1.—The Department of Veterans Affairs

The Department of Veterans Affairs administers the legislation making up the Veterans Charter, except for the Pension Act which is the responsibility of the Canadian Pension Commission. The Department was established in 1944 and its organization and scope are reported upon in the 1946 Year Book, pp. 1052-54. Subsequent editions of the Year Book report the work of the Department each year, and the following Sections bring it up to Mar. 31, 1955.

Briefly the Department is now mainly concerned with the provision of medical treatment, the payment of allowances, land settlement, welfare work and the rehabilitation of disabled veterans. A few veterans (Korean action and disability pensioners) are receiving vocational and educational training; educational assistance is being provided for children of the war dead; some re-establishment credit has not yet been claimed; and claims and applications relating to insurance for veterans are received regularly.

The work of the Department, except as regards the Veterans' Land Act, and of the Canadian Pension Commission, is decentralized through 18 district offices and two sub-district offices in Canada, and a district office in London, England. The administration of the Veterans' Land Act is carried on through eight district offices and 34 regional offices, with travelling supervisors operating from the latter to serve the veterans settled throughout Canada.

Imperial War Graves Commission.—The Commission was incorporated by Royal Charter in 1917 and was entrusted with the marking and maintenance in perpetuity of the graves of those of the British Commonwealth Armed Forces who lost their lives between Aug. 4, 1914 and Aug. 31, 1921 and between Sept. 3, 1939 and Dec. 31, 1947. The Commission erects memorials to commemorate those who have no known grave.

The official agent in Canada of the Commission is the Minister of Veterans Affairs and the area of responsibility of the Canadian Agency is the continent of North America. Office of the Secretary-General of the Canadian Agency is in the Veterans Memorial Building, Ottawa. The Canadian Agency is responsible for about 13,000 war graves in over 2,000 cemeteries. The memories of approximately 3,400 servicemen, missing in operations while based in North America, are commemorated on the memorials which have been erected at Victoria, B.C. and at Halifax, N.S. A memorial to be erected in Ottawa will commemorate the names of an additional 850 servicemen who served with the Commonwealth air forces.

Section 2.—Medical, Dental and Prosthetic Services

Medical Services.—The Department maintains a chain of 12 active treatment hospitals from coast to coast as well as two convalescent centres and three veterans homes where domiciliary care is provided. Besides the 17 institutions owned and operated by the Department, with a total operating capacity of 9,425 beds as of Mar. 31, 1955 there are 588 beds in three veterans pavilions at Ottawa, Regina and Edmonton. These pavilions are owned by the Department but are operated by the parent hospitals and partially administered by Departmental staffs. Special centres are maintained in the active treatment hospitals for the investigation and treatment of arthritis, paraplegia, tuberculosis, mental and other conditions.

Where Departmental facilities are not available entitled veterans may be treated at Departmental expense by their own doctors, in the hospitals of their choice.

Most of the hospitals are located close to medical schools and, when they are, close co-operation is maintained between the two, with the hospitals participating in medical teaching. Eleven of the active treatment hospitals have been approved by the Royal

* Contributed by the various Branches of the Department of Veterans Affairs.

College of Physicians and Surgeons in Canada for postgraduate teaching in internal medicine and surgery, and seven have been approved for advanced postgraduate teaching in the various specialties.

The members of the professional staffs of the hospitals are employed on a part time basis by the Department and most of them also serve on the faculties of the medical schools. University presidents have continued their co-operation with the Department by permitting their deans of medicine to nominate highly qualified doctors as consultants in Departmental hospitals, and in allowing the employment of non-medical university staff members as advisers to the Department.

The Departmental Research Program, set up in 1950, has continued and enlarged. During the year ended Mar. 31, 1955 over one hundred projects were in progress. The projects deal with a variety of conditions but the majority are concerned with older veterans. The Department is in a unique position to undertake such clinical research. Among these projects may be mentioned studies on atherosclerosis, nutrition in elderly patients, hypertension, chronic respiratory disease and a program concerned with the problems of ageing. Various clinical follow-up studies are also in progress and a close liaison is maintained with other government departments undertaking research. An isotope laboratory has been established at Queen Mary Veterans' Hospital in Montreal. In five of the larger hospitals Clinical Investigation Units are in operation. These are self-contained units which provide basic facilities for clinical research and carry out detailed metabolic and other studies required both for research and treatment.

The Department provides financial assistance for postgraduate study and during the year ended Mar. 31, 1955 thirty-two persons attended courses under the Research and Medical Education Grant. Schools for the training of nursing assistants are in operation at Halifax, Montreal and Toronto and have facilities for graduating 180 nursing assistants annually. Graduates may obtain employment in Departmental hospitals.

Arrangements are in effect whereby members of the Armed Forces may be treated in Departmental hospitals at the request of the Department of National Defence; at three of the active treatment hospitals, a special Armed Forces Unit, staffed by Department of National Defence personnel, has been established within the hospital. Arrangements are also in effect for the treatment in Departmental institutions of members of the Royal Canadian Mounted Police and sick mariners.

During the year authority was obtained to amend the Veterans Treatment Regulations relating to the treatment for non-pensioned conditions of veterans with limited income and resources. Previously such veterans were subject to a means test and veterans who qualified were given treatment free of charge. Those who could not qualify under the means test were not eligible for treatment unless they could pay the full hospital costs. The amendment raised the ceiling by over 100 p.c. and a sliding scale charge for hospitalization was introduced, depending on the amount of adjusted income. Where income and resources are below certain limits hospitalization continues to be provided without cost to the veteran.

Any veteran may receive treatment in a Departmental hospital for a non-pensioned condition by guaranteeing the full cost of hospitalization. During the year ended Mar. 31, 1955 over 2,300 veterans took advantage of this privilege. The introduction of the new legislation mentioned above will result in more veterans receiving elective treatment but will reduce the number who pay full costs.

Prosthetic Services.—Orthopaedic and surgical appliances, prescribed by Treatment Services under the Veterans Treatment Regulations, are supplied by the Prosthetic Services Branch of the Department of Veterans Affairs. This organization, with a staff complement of 235, comprises a central manufacturing and fitting establishment at Sunnybrook Hospital, Toronto, with other such centres in eleven of the larger Canadian cities, serving to extend manufacturing, repair and fitting facilities to all parts of Canada. Types of appliances manufactured are those of individual specifications such as artificial

legs, arms, eyes, facial restoration prostheses, braces, belts, orthopædic boots, etc.; others such as hearing aids, spectacles, trusses, surgical hosiery, etc., are purchased from manufacturers under contract.

The Branch also extends training in prosthetic manufacture to about five or six persons each year at the request of provincial or foreign government authorities.

During the fiscal year ended Mar. 31, 1955 about 65,000 persons were supplied with appliances, accessories, or maintenance service. Total issues numbered 124,408.

A Research and Development Section operates to apply scientific knowledge toward development of new designs, materials, methods, to the solution of special prosthetic problems, and to general improvement and development in the prosthetic field. Liaison is maintained with the National Research Council, Ottawa and with research committees in the United Kingdom and the United States. Staff training classes are arranged to instruct senior personnel with respect to newly developed appliances and processing techniques.

Dental Services.—As with any other form of treatment, dental treatment is provided by the Department to those veterans and other persons who are eligible under the various classes of the Veterans Treatment Regulations. This includes treatment provided at the request and expense of other Government Departments such as the Department of National Defence—for the Armed Services—and the Department of Justice—for the RCMP—and of other governments, such as those of the United Kingdom and the United States.

The Department maintains 18 full time and eight part time dental clinics in the various DVA hospitals and other institutions across Canada. There are 37 full time dental surgeons employed in these clinics. In localities where Departmental facilities are not available, treatment is supplied through the dentist-of-choice plan by civilian practitioners.

Dental treatments provided by the Department reached a peak in 1947-48 and since then have declined to approximately 19,000 cases per year involving about 125,000 operations.

Vetcraft Shops.—Vetcraft Shops are operated at Toronto and Montreal and small assembly is done in Winnipeg, Calgary and Regina, to provide sheltered employment for a number of disabled veterans. These shops produce poppies, emblems and wreaths which are sold by the Canadian Legion on Remembrance Day to obtain funds for general welfare work. Fifty-four veterans are employed regularly while homework assembly is distributed to about 50 other persons. Value of production for the 1954 campaign exceeded \$250,000.

Section 3.—Pensions and Allowances

The Canadian Pension Commission.—The Commission is a statutory body, the members of which are appointed by the Governor in Council. It is charged with the administration of the Pension Act and the Civilian War Pensions and Allowances Act and reports to Parliament through the Minister of Veterans Affairs. The Governor in Council may impose upon the Commission like duties in respect of any grants in the nature of pensions, etc. made under any statute other than the Pension Act.

The Head Office of the Commission is in the new Veterans Memorial Building in Ottawa and in each District Office of the Department the Commission is represented by Pension Medical Examiners and staff.

It is the responsibility of the Commission to adjudicate upon claims for injury or disease resulting in disability or death during service with the Navy, Army or Air Force of Canada during war or peacetime. Provision is also made whereby the Commission may supplement certain awards made by the British or Allied Governments, as set out herein, up to the amount of Canadian rates, during the recipients' residence in Canada.

The Pension Act.—Under the Pension Act (R.S.C. 1952, c. 207 and amendments):—

- (1) Pensions payable to veterans of the Fenian Raid and Northwest Rebellion under authority of Orders in Council are supplemented to the Canadian scale.
- (2) Pensions payable by Great Britain on account of Canadians who served in the South African War are supplemented to the Canadian scale.
- (3) Pensions for peacetime service prior to World War I payable under Orders in Council are supplemented to the Canadian scale.
- (4) Pensions are paid in respect of service in World Wars I and II for injury or disease or the aggravation thereof resulting in disability or death attributable to or incurred during service.
- (5) Supplementation to Canadian rates may be made during residence in Canada for (a) men who were domiciled in Canada at the outbreak of World War I, or were resident in Canada at the date of commencement of World War I but were unable to secure a Canadian domicile by reason of the fact that they had not attained their majority at the time they left Canada for service, and who were pensioned for disabilities attributable to service in the Imperial Forces during that war; (b) men who were domiciled in Canada at any time during the four years preceding the outbreak of World War II and who left Canada and enlisted with the forces of the United Kingdom, and were awarded a disability pension by the Government of that country; (c) men who were domiciled in Canada at the outbreak of World War I or II, or resident in Canada at the date of commencement of World War I or World War II but were unable to secure a Canadian domicile by reason of the fact that they had not attained their majority at the time they left Canada for service in the forces of countries allied with the United Kingdom, and were awarded a pension by the Governments of such countries.
- (6) Pensions for peacetime service between World Wars I and II and subsequent thereto are paid when the injury or disease or aggravation thereof resulting in disability or death arose out of or was directly connected with service.

Under special legislation provision was made to extend the benefits of the Pension Act to those who had enlisted in the Canadian Army Special Force and for those who had served in a theatre of operations prior to Nov. 1, 1953. Also, the Civilian War Pensions and Allowances Act provides pension legislation for a number of civilian groups whose work was closely associated with the World War II war effort (*see* p. 305).

Schedule A of the Pension Act sets out the rates at which disability pension can be paid. These rates are determined on a percentage basis in accordance with the degree of disability found to exist on medical examination from time to time. There are twenty classes covering disabilities from 5 p.c. to 100 p.c., and a twenty-first class which provides for a final payment for those whose disability is assessed at less than 5 p.c. The pension for a total disability, for the rank of Major and below, is \$125 per month. If the pensioner is married and resides with or materially supports a wife and children he is entitled to \$45 a month additional pension for his wife, \$20 a month for his first child, \$15 a month for his second child and \$12 a month for the third and any subsequent children. Slightly higher rates of personal pension are provided for those whose rank was higher than that of Major but the additional pension for such ranks is the same. If a pensioner is helpless and in need of attendance he may be granted a helplessness allowance which might vary from a minimum of \$480 to a maximum of \$1,400 per annum, depending on the amount of attendance required. For blind persons, where constant attendance is not required, the helplessness award is \$960 per annum.

Schedule B of the Act sets out the rate at which pension may be paid for deaths incurred on or attributable to service. The widow of a deceased member of the Forces, whose rank was Major or below, is entitled to \$100 a month for herself and monthly payments of \$40 for the first child, \$30 for the second and \$24 for each additional child. A child's pension expires when a boy reaches the age of 16 and a girl reaches the age of 17. However such pension may be continued to the age of 21 if the child is making satisfactory progress in a course of education approved by the Commission.

If a pensioned widow remarries, her pension ceases but she is entitled to be paid one year's pension as a final payment. If her second husband dies within five years of the date of her marriage, leaving her in a dependent condition, she may make application to have the pension restored to her.

The Civilian War Pensions and Allowance Act.—This Act provides pension legislation for a number of civilian groups whose work was closely associated with the World War II war effort, including merchant seamen, auxiliary services personnel, fire-fighters who served in the United Kingdom, special constables with the Royal Canadian Mounted Police, overseas welfare workers, etc.

Pensions in Force.—In previous issues of the Year Book information is given regarding the development of Canadian pension legislation as well as yearly statistics of numbers and liability. As at Mar. 31, 1955 pensions in force were as follows (excluding ex-members of the women's forces and miscellaneous pensions):—

Service	Disability		Dependent		Totals, Disability and Dependent	
	Pensions in Force	Liability	Pensions in Force	Liability	Pensions in Force	Liability
	No.	\$	No.	\$	No.	\$
World War I.....	58,548	37,953,876	15,323	16,950,633	73,871	54,904,509
World War II.....	100,256	54,341,994	18,250	16,860,819	118,506	71,202,813
Peacetime.....	504	254,974	294	452,231	798	707,205
Special Force.....	1,128	493,970	145	177,600	1,273	671,570
TOTALS.....	160,436	93,044,814	34,012	34,441,283	194,448	127,486,097

Veterans' Bureau.—An amendment to the Pension Act in 1930 established the branch of the Department known as the "Veterans' Bureau", and provided for the appointment of pensions advocates to assist, free of charge, veterans seeking to establish entitlement under the Pension Act. The office of the Chief Pensions Advocate is in Ottawa and there are pensions advocates at Ottawa and in each of the 18 district offices of the Department. Most of the advocates are lawyers.

In carrying out their duties the pensions advocates participate in the preparation of claims made by former members of the Forces and their dependants, which are to be submitted to the Canadian Pension Commission. They also appear as counsel for applicants before the Appeal Boards of the Commission and sometimes before the Commission itself in earlier hearings of the claims.

The service is available to all former members of the Armed Forces and to former members of the various auxiliary organizations such as merchant seamen, fire fighters and others. Applicants for pension have the right to employ a private solicitor, a veterans' organization or other representative of their choice, but most applications under the Pension Act are prepared by pensions advocates on strength of the Veterans' Bureau. As at Mar. 31, 1955 the Bureau had 7,793 active claims in hand.

Section 4.—Rehabilitation of Veterans

The Welfare Services Branch of the Department of Veterans Affairs administers the rehabilitation benefits still available to veterans, including assistance by way of advice and guidance on a wide variety of personal, frequently intangible problems which from time to time confront the veteran, and the solutions to which often, directly or indirectly, play a large part in successful rehabilitation.

This aspect of the work involves among other things the closest collaboration with other government departments at all three levels, federal, provincial and municipal. National and local welfare organizations also play their part. It involves very close

liaison work with the District Offices of the Department as well as with local Unemployment Insurance Commission offices across Canada where actual contact with the veteran and his family is generally made.

A review of the work of the various Sections of the Branch is given in the following paragraphs.

War Service Gratuity.—The payment of War Service Gratuity was discontinued after Dec. 31, 1954 except in a few cases where the applicant had overseas service and where the Minister was satisfied of the existence of circumstances justifying the delay in making application. Table 1 shows amounts expended up to Mar. 31, 1955.

1.—Gratuity Payments under the War Service Grants Act, Years Ended Mar. 31, 1945-55

Year and Service	Navy	Army	Air Force	Miscellaneous	Total
	\$	\$	\$	\$	\$
1945—					
Forces.....	973,958	14,663,621	3,468,852	—	19,106,431
1945-46—					
Forces.....	27,277,979	121,003,582	64,157,016	—	212,438,577
Canadian Fire Fighters.....	—	—	—	161,760	161,760
Auxiliary Services.....	180	58,646	36,116	—	94,942
1946-47—					
Forces.....	17,766,529	170,658,329	32,949,430	—	221,374,288
Auxiliary Services.....	365	254,616	98,475	—	353,456
1947-48—					
Forces.....	940,778	11,386,313	1,372,651	—	13,699,742
Auxiliary Services.....	—	315,046	Cr. 5,198	—	309,848
1948-49—					
Forces.....	140,907	589,132	226,686	—	956,725
Auxiliary Services.....	—	35,563	—	—	35,563
1949-50—					
Forces.....	37,595	133,117	168,582	—	339,294
Auxiliary Services.....	—	9,483	—	—	9,483
Netherlands.....	—	—	—	91,737	91,737
1950-51—					
Forces.....	21,318	76,348	344,717	—	442,383
1951-52—					
Forces.....	9,708	128,058	124,366	—	262,132
Special Force.....	1,340	18,208	—	—	19,548
1952-53—					
Forces.....	—	—	—	—	112,437
Special Force.....	600,036	2,769,829	26,567	—	3,396,432
1953-54—					
Forces.....	—	—	—	—	113,330
Special Force.....	289,441	2,161,760	25,646	—	2,476,846
1954-55—					
Forces.....	—	—	—	—	69,911
Special Force.....	73,444	675,250	23,019	—	771,713
Total.....	...	...	...	...	476,636,578

Re-establishment Credit.—On Mar. 31, 1955 the amount of \$25,842,664 Re-establishment Credit for World War II service remained unexpended, and the amount of \$1,741,203 for Special Force service. Of these unexpended amounts approximately \$12,000,000 belongs to veterans residing outside of Canada and is available only for the purchase of Veterans Insurance.

2.—Re-establishment Credits Paid by Required Purpose, Years Ended Mar. 31, 1954 and 1955 with Cumulative Totals to Mar. 31, 1955

Purpose	1954	1955	Cumulative Total to Mar. 31, 1955
	\$	\$	\$
Homes	4,939,776	3,903,810	234,044,733
Purchased under National Housing Act.....	50,147	34,300	3,279,884
Purchased other than under National Housing Act.....	383,337	267,883	32,072,388
Repairs, etc.....	329,284	289,412	16,221,114
Furniture and equipment.....	4,116,749	3,277,775	178,062,919
Reduction of mortgage.....	60,259	34,440	4,408,428
Business	1,002,307	874,056	54,095,629
Purchase of a business.....	14,123	8,349	3,663,363
Working capital.....	381,256	322,741	24,829,844
Tools and equipment.....	606,928	542,966	25,602,422
Miscellaneous	383,863	435,719	8,983,449
Insurance, annuities, etc.....	324,522	377,443	8,210,493
Special equipment for training.....	33,549	31,296	673,363
Clothing.....	25,792	26,980	99,593
Totals	6,325,946	5,213,585	297,123,811

Casualty Rehabilitation.—The casualty rehabilitation program of the Department of Veterans Affairs was inaugurated for the purpose of successfully re-establishing disabled veterans in civil life. To carry out this program each disabled veteran must be placed in a job which his remaining abilities enable him to perform, at least as efficiently as the same duties would be performed by a non-disabled employee.

To carry out its function the Casualty Welfare Division places particular emphasis on vocational guidance and training, job selection (matching worker abilities to job requirements) and vocational follow-up. Specially trained casualty welfare officers are employed in Departmental hospitals and in the District Offices to counsel disabled veterans, to assist and direct their placement in gainful employment and to provide welfare aftercare service when required.

The most important fact in the satisfactory placement of a disabled person is the person himself. Most of the veterans who have been assisted in obtaining employment by the Division have proven to be competent, efficient employees and have justified the confidence placed in them by their employers. The work of the Division is greatly facilitated by the cordial co-operation it receives from business and industry, all levels of government, community agencies, veterans associations, organizations of disabled persons and others.

Up to Mar. 31, 1955 there were 40,669 registrations with this Division, of which 5,675 were still active cases. These registrations, according to type of disability, are shown in the following statement:—

Type of Disability	Active Cases	Closed Cases
	No.	No.
Amputation.....	218	2,138
Neuro-muscular and skeletal system disabilities.....	1,334	11,256
Total and partial loss of hearing or sight.....	300	2,700
Neurological cases.....	291	1,289
Head and vascular system.....	312	3,446
Respiratory disabilities.....	2,333	8,799
Mental and emotional disabilities.....	266	827
Unclassified.....	621	4,539
TOTALS	5,675	34,994

During the year the number of registrants increased by 1,082 but, through the efforts of the casualty welfare officers, a larger number of cases were closed so that, on balance, the fiscal year ended with a smaller number of active cases, namely 5,675 against 6,100 as of Apr. 1, 1954. Progress in the rehabilitation of the cases between Mar. 31, 1954 and Mar. 31, 1955 was as follows:—

<i>Status</i>	<i>Mar. 31, 1954</i>	<i>Mar. 31, 1955</i>
	No.	No.
Employed.....	31,607	32,461
Unemployed.....	912	1,079
Receiving treatment, training or other services.....	2,716	2,470
Rehabilitation not feasible.....	2,319	2,608
Closed on WVA.....	1,228	1,132
Left Canada.....	805	910
TOTALS.....	39,587	40,669

Social Service.—Within broad policy limits social workers have considerable freedom in applying their professional knowledge and skills to the work of the Welfare Services Branch. They give direct service in certain types of cases, act as consultants within their areas of competence to other staff dealing with welfare problems and assist in staff development programs concerned with welfare principles and methods.

In three districts where postgraduate schools of social work are located, Branch social workers participate in field work training of students. They maintain liaison with social agencies and welfare departments at different levels of government in the interests of veterans and their dependants. They are active in local welfare councils and similar organizations designed to co-ordinate and improve community welfare services. They also have special responsibilities in the operation of the War Veterans Allowances Assistance Fund and DVA services to the Department of National Defence.

Shortly after the outbreak of hostilities in Korea, DVA, at the request of National Defence, undertook to provide reports on home circumstances of serving personnel who request compassionate leave, posting or discharge. This involves interviewing wives, parents, etc., and frequently contact with doctors and others. Wherever possible dependants are counselled regarding available sources of help in the community and how to use such sources. During the year ended Mar. 31, 1955, 3,032 such requests were received, 529 fewer than during the previous fiscal year. This decrease is related to the withdrawal of Canadian Forces from Korea.

Rehabilitation of Older Veterans.—General welfare needs of older veterans are increasing in importance and volume, and sustained effort is required in helping them with their problems. Increasing numbers of World War I veterans are becoming wholly retired or in the "light employment only" class, entailing increasing calls on the Department's statutory provisions for assisted maintenance and co-ordinated search for suitable work. Their ranks are being swelled annually as World War II veterans pass middle age.

At Head Office and at each District Office specified welfare officers give particular attention to the older group and enlist the interest and co-operation of all available agencies. Disability pensioners, recipients of War Veterans Allowance and particularly those veterans who do not yet qualify for the Allowance, superannuated, retired, or partially retired veterans, all invariably require and receive welfare services as a general aid to their economic requirements or problems. Suitable employment within their capacity is paramount and that there has been no lessening of need in this field is borne out by Unemployment Insurance Commission reports of World War I and dual-service veterans registered for employment, viz., at Mar. 31, 1953, 10,744; at Mar. 31, 1954, 12,977; and at Mar. 31, 1955, 13,570.

To meet this need active participation is maintained with the Older Workers Committee of the Department of Labour, the Canadian Welfare Council Committee on the Aged, and the Unemployment Insurance Commission. Leadership is given in the holding of local boards to review the cases of registrants not gaining employment in a reasonable

time through veterans' organizations and to study and resolve the individual veteran's employment and general welfare. Activities continue with all associated bodies in the field of housing and recreation, co-ordinated with medical and professional services with respect to domiciliary care and rehabilitation. Counselling is given older veterans to "plan their retirement in advance", arrange their housing, insurance, etc., in relation to expected reduced incomes upon cessation of regular employment.

Close co-operation is maintained with the Corps of Commissionaires, an efficient, privately controlled older veterans' employment agency. Government departments utilize about half of the nearly 6,000 employed Commissionaires but private employers are increasingly recognizing their worth and lately a number of municipalities have entered into contracts with the Corps to use Commissionaires as auxiliaries to police in controlling traffic, parking, etc.

Assistance Fund.—In 1955 revision of the War Veterans Allowance Act was followed by changes in the Assistance Fund. The main effect of new regulations (Order In Council dated Apr. 4, 1955) was to enlarge the formula used in determining need for a continuing monthly grant. Clothing and personal allowances were added to those for rent, fuel, food and health needs. As before, single grants may be given to cover emergency needs not included in the monthly formula. Maximum assistance from the Fund is \$120 to \$144 per annum respectively to single and married recipients of War Veterans Allowances.

Field work for the Fund is done almost entirely by the Welfare Services Branch which, through counselling and referral, also assists applicants in other ways. Since a monthly grant can continue as long as the original need is unchanged the number of people assisted in any year is greater than the number applying during that period. Some statistical comparisons of Fund activity during the years ended Mar. 31, 1954 and Mar. 31, 1955 are as follows:—

<i>Item</i>		<i>Mar. 31, 1954</i>	<i>Mar. 31, 1955</i>
Persons assisted.....	No.	4,440	5,681
Persons applying during year.....	No.	3,526	3,618
Applicants assisted.....	No.	3,189	3,294
Proportion of applicants assisted.....	p.c.	90	91
Fund expenditures during year.....	\$	347,461	478,015
Monthly grants given.....	\$	192,127	303,628
Proportion of expenditure given in monthly grants.....	p.c.	55.3	63.5
Average expenditure per person assisted.....	\$	78.26	84.14

Education and Training.—The university training program for veterans authorized by the Veterans Rehabilitation Act is drawing to a close. Most of those now receiving assistance are Korean veterans and disability pensioners. At the end of the 1954-55 academic year, of the 377 being assisted 71 were veterans of the Korean Force; of the 346 taking vocational training, 159 were veterans of the Korean Force.

The Pensioners Training Regulations, established in 1954 by Order in Council, provide training under the terms of the Veterans Rehabilitation Act for members of the Regular Forces who are discharged with entitlement to disability pensions. During the 1954-55 fiscal year two veterans were approved for university training and two for vocational training.

The Children of War Dead (Education Assistance) Act provides assistance for the higher education of children of deceased members of the Armed Forces and of other persons whose deaths have been attributed to war service by the Canadian Pension Commission. This assistance is available to eligible children who are undertaking courses of education for which graduation from a secondary school or its equivalent is a requirement of admission.

The Assistance is in the form of a monthly living allowance of \$25 to each student during the academic year and the payment of tuition and other admissible fees not exceeding \$500 in any academic year. The assistance may not be continued beyond four academic years or 36 months, whichever is the lesser. The benefits of this Act are available in Canada only and may not be paid beyond the academic year in which the student achieves his or her 25th birthday.

From the inception of this Act July 1, 1953 to Mar. 31, 1955 applications were approved for 493 children (male 263 and female 230); \$137,963 was paid for fees and an additional \$123,674 for monthly allowances, a total of \$261,637. During the fiscal year 1954-55 applications were approved for 187 children, requiring an expenditure of \$154,855 (fees \$78,360 and allowances \$76,495).

The training provided under this Act is distributed under 46 headings. Nursing, teaching and engineering accounted for 55.15 p.c. of the total in 1954-55; law, medicine, biology, theology, geology and accountancy accounted for 21.13 p.c.; and social work, journalism, laboratory technicians, secretarial, pharmacy and other occupations accounted for 23.72 p.c.

The Veterans' Land Act.—Throughout Canada the Veterans' Land Act Administration has 257 resident Field Supervisors whose responsibility it is to appraise land being considered for settlement and to assist and advise veteran settlers in agricultural matters in a manner that will lead to sound and permanent settlement. There are also 93 Construction Supervisors working in the field giving close supervision and practical advice to veterans on matters relating to home building. In order to ensure that supervisory officials keep abreast of the latest developments and newest techniques in agricultural production and construction methods, staff training conferences are held throughout Canada each year. Also the importance of sound appraisals is stressed and field supervisors are given every encouragement to qualify as Accredited Rural Appraisers.

During the fiscal year 1954-55 net approvals for assistance in land settlement were made on behalf of 3,620 veterans of World War II and the Special Force and, of these, 2,727 were part time farmers (smallholders), 846 full time farmers and 47 were commercial fishermen. At the end of March 1955 a total of \$345,270,219 of public funds had been committed on behalf of 68,810 veterans. At the end of the year 60,708 accounts were active, including those of 1,456 Indian veterans on Indian reserve lands administered by the Department of Citizenship and Immigration.

By Mar. 31, 1955, of all veterans settled during the previous twelve years, 87 p.c. still had subsisting contracts with the Director and 6 p.c. had acquired title to properties. Only 7 p.c. had relinquished their contracts, most of them voluntarily; in only 126 cases or less than 0.2 p.c. of the total was it necessary to rescind contracts and repossess property. Contract terms had been fulfilled by 103 veterans who thereby earned their Conditional Grants, and in 42 of these cases the contract debt to the Director was paid off and title to both real estate and chattels turned over to the veterans. In addition titles to livestock and farm equipment had been released to 7,843 veterans who became firmly established and acquired substantial financial equities in their properties.

The repayment terms for farmers and most of the fishermen call for annual or semi-annual instalments, while part time farmers make payments on a monthly basis. As of Mar. 31, 1955 only 1.5 p.c. of the veterans were in arrears of \$200 or more in the case of farmers and fishermen or \$100 or more in the case of part time farmers. Prearranged systems of making payments are used by nearly 19,000 veterans and an additional 2,553 have completely prepaid their contract debts. Postdated cheques are used by 11,923 veterans, 5,829 have given orders on pensions or salary assignments and 1,222 share-of-crop agreements are in effect in the spring wheat areas of the Prairie Provinces.

Under the current provisions of the Act there are various alternatives available to veterans who wish to become established. Farmers already settled who now wish to increase the productivity of their farms or promote soil conservation may do so at a cost of up to \$4,500 beyond the original investment by paying one-third of the additional cost. The Director will advance the remaining two-thirds up to a maximum of \$3,000 at 5 p.c. interest. This additional aid places them on equal terms with farmers now being settled who can have up to \$10,500 expended on their behalf by investing \$1,980 of their own funds.

No additional assistance has been made available to established part time farmers and commercial fishermen because Part IV of the National Housing Act makes funds available to them for the purpose of adding to or improving their homes. However both

part time farmers and commercial fishermen now being settled are eligible under Part III of the Act (see 1955 Year Book, p. 291) for loans of up to \$1,400 (additional to their loans under Part I) by contributing an amount equal to one-half of the amount loaned. This means that the down payment required of the fisherman may be as low as \$1,180, or \$1,240 in the case of the part time farmer, for maximum assistance of \$8,100.

With an investment of \$800, which may be in cash or the title to a suitable lot, veterans may obtain assistance, up to a maximum of \$8,000, for the purpose of building homes on city-size lots.

One out of every thirteen agricultural units in Canada with a gross income of \$1,200 or more is occupied by a veteran settled under the provisions of the Veterans' Land Act. Most of these properties, which are the security for the public investment in this real estate, have increased substantially in value since the Director obtained title. Part of this increase is of course a result of the upward trend of land values during the past decade but a large part of it is attributable to the improvements to the land and buildings effected by the veterans. Inventories of stock and equipment have also been increased considerably both in quantity and in quality and the financial stability of the veterans greatly improved.

A study of over 8,900 consecutive reports indicated that 80 p.c. of 29,402 active smallholders had vegetable gardens which, it is estimated, saved each smallholder an average of \$135. About 26 p.c. used the land to raise farm produce which brought in cash returns amounting to nearly \$800 each on the larger holdings of two or more acres. Over 70 p.c. had substantially increased the value of their properties by completing part of a long term program covering such essential items as grading and lawn, tree and shrub planting. The value of produce raised for home use or for sale was estimated to be about \$7,000,000 in 1954-55.

There were 1,665 new homes completed during the year, this being a slight increase over the number built during the previous twelve months, making a total of 18,285. The veterans themselves play a large part in constructing or improving their homes and farm buildings. During the year nearly 88 p.c. of the new homes started and practically all of the improvements made were on the basis of veterans acting as their own contractors.

In addition 27 veterans commenced construction of their own homes on city-size lots under the provisions of Part II of the Act.

3.—Settlement Status, Loans and Grants under the Veterans' Land Act as at Mar. 31, 1955

NOTE.—Excludes Indian veterans on reserves.

Item	Full Time Farming	Small Holdings	Com- mercial Fishing	Mortgage Loans	Provincial Lands	Federal Lands	City- size Lots	Total
Qualified but not yet settled.....	No. 3,788	12,103	118	1	333	66	1,157	17,565
Approved for financial assistance.....	No. 26,011	34,364	994	948	4,646	391	33	67,387
Amounts approved for land and permanent improvements.....	\$ 102,298,898	172,018,675	3,058,003	1,228,914	4,430,081	816,251	260,146	284,110,968
Amounts approved for stock and equipment	\$ 31,220,153	7,847,028	1,031,300	761,544	5,968,430	11,031	—	46,839,486
Average amount approved per veteran.	\$ 5,133	5,234	4,114	2,100	2,238	2,116	7,883	4,919
Average conditional grant per veteran...	\$ 2,005	1,380	1,754	—	2,238	2,116	—	1,695

¹ Included with full time farming and small holdings.

4.—House Construction under the Veterans' Land Act as at Mar. 31, 1955

Item	Full Time Farming	Small Holdings	Commercial Fishing	Provincial Lands	Federal Lands	City-size Lots	Total
	No.	No.	No.	No.	No.	No.	No.
Houses completed (from 1942).....	1,309	15,410	243	1,220	103	—	18,285
Houses under construction.....	172	1,328	17	165	9	27	1,718
Houses projected.....	254	759	11	150	—	7	1,181
Net applications for new housing.....	1,735	17,497	271	1,535	112	34	21,184

Returned Soldiers' Insurance.—Under the Returned Soldiers' Insurance Act of 1920 veterans and widows of veterans of World War I became eligible, on favourable terms, to contract with the Government for a maximum of \$5,000 life insurance. A low medical standard enabled many veterans who were unable to meet the health requirements of commercial insurance thus to secure protection for their dependants. The insurance offered was on life plans with no provision for endowments or term insurance. Beneficiaries were restricted to wives and husbands or children, if living, otherwise certain other relatives could receive the proceeds as alternative beneficiaries.

As the insurance was devised primarily to provide a measure of security the legislation authorized a limited payment only, if death occurred in the comparatively early years, in the event of an award to the insured's dependants under the Pension Act. The amount of the reduction thus effected continued to decrease the longer the policy remained in force and in recent years has had little effect on most claims.

A disability benefit included in each contract provided, without extra premium charge, that premiums would be waived and the sum insured optionally payable to the policyholder if he were to become totally and presumably permanently disabled from a non-pensionable disability.

Policies were issued from July 1920 to September 1923 and from July 1928 to August 1933. A total of 48,319 policies were issued for a face amount of \$109,299,500 insurance. On Mar. 31, 1955 there were 12,467 policies in force for a face amount of \$26,246,302; of these, 3,853 policies were premium-paying, 7,626 were paid-up, 207 had been converted to the Extended Term Insurance basis, and 781 were being carried under the disability provision.

Veterans Insurance.—In 1945 the Veterans Insurance Act, based on the same principles as the Returned Soldiers' Insurance Act, enabled veterans and widows of veterans of World War II and, later, of the Korean action, to contract with the Government for a maximum of \$10,000 insurance. This Act included a provision that the proceeds will generally be reduced if a pension under the Pension Act is awarded on the insured's death occurring during the premium paying term under the policy.

The original period of eligibility for World War II service expired on Feb. 20, 1948 or three years after discharge. It was extended in 1948 by three years and in 1951 by four years so that World War II veterans have until 10 years after discharge to contract for this insurance. Those qualified by active Korean service are eligible until Oct. 31, 1958. However veterans who have unused Re-establishment Credit may apply for Veterans Insurance until Jan. 1, 1960, or at any time within 15 years after discharge, whichever is later.

The amount of insurance applied for may be in multiples of \$500 up to the maximum of \$10,000. The insurance, which is non-participating, may be on the 10, 15 or 20 payment life plan, or provide for premiums payable until the policy anniversary nearest the insured's age 65 to 85. Premiums may be paid in cash, from a pension under the Pension Act or from Re-establishment Credit. A disability benefit provides for the waiver of premiums

in the event of total and presumably permanent non-pensionable disability. Cash surrender values and alternative reduced paid-up and extended term insurance provisions are included in each contract. Loans are not available. The proceeds may be paid to the beneficiary in a lump sum up to a maximum of \$2,000; amounts in excess of this will be paid in the form of an annuity.

5.—Statistics of Veterans Insurance, Years Ended Mar. 31, 1949-55

Year Ended Mar. 31—	Insurance Issued During Year		Insurance in Force at End of Year		Death Claims Approved During Year	
	No.	\$	No.	\$	No.	\$
1949.....	4,615	14,074,500	22,293	63,836,743	91	245,500
1950.....	2,316	7,448,500	23,722	68,016,514	111	340,080
1951.....	3,247	10,718,000	25,917	75,020,885	130	400,500
1952.....	2,302	8,322,500	26,985	79,115,734	158	346,500
1953.....	2,167	7,849,000	27,731	81,826,281	186	530,000
1954.....	1,666	6,109,500	27,909	82,619,669	192	532,500
1955.....	3,367	11,642,000	29,637	88,815,523	159	419,924

War Veterans Allowance Act.—War veterans allowances were first introduced in 1930 for those veterans who, owing to their front-line service, were considered to have been pre-aged and therefore were at a disadvantage in the labour market before their time.

Since then the War Veterans Allowance Act has been revised and amended on numerous occasions, each time its scope being extended or its provisions being made more generous. The Act was last revised in 1952 and details of that complete revision are to be found in the 1954 Year Book, pp. 275-276. The 1952 Act was amended as of Mar. 31, 1955, the major change being a new schedule of rates and ceilings. These are as follows:—

Recipient	Monthly Maximum Rate	Annual Income Ceiling
	\$	\$
Veterans and widow(er)s, single status.....	60	840
Veterans and widow(er)s, married status.....	108	1,440
One orphan.....	40	720
Two orphans of one veteran.....	70	1,200
Three or more orphans of one veteran.....	85	1,440

The allowances are awarded to eligible male veterans at the age of 60, or earlier if their physical or mental condition prevents them from maintaining themselves. For female veterans and widows the age is 55. Allowances may be paid to orphans of eligible veterans who have been bereft by death of both parents or abandoned by a surviving parent.

The allowances are paid subject to certain financial limitations, that is, the combination of other income and an allowance may not exceed the appropriate annual income ceiling. "Other income" does not include casual earnings from odd jobs, part time employment to \$50 per month or temporary employment up to 12 weeks per year.

The War Veterans Allowance Act is administered by the War Veterans Allowance Board at Ottawa and 19 District Authorities located in the district offices of the Department. The district authorities adjudicate upon applications for allowances and deal with matters relating to the awards. In addition to defining policy the Board deals with appeals from the decisions of the district authorities.

The number of veterans and others who were in receipt of allowances at the close of each of the fiscal years ended Mar. 31, 1950-55, together with the annual liability, was as follows:—

<i>As at Mar. 31—</i>	<i>Veterans in Receipt of Allowance</i>	<i>Others in Receipt of Allowance</i>	<i>Liability</i>
	No.	No.	\$
1950.....	26,643	7,279	20,398,723
1951.....	30,608	8,733	23,448,295
1952.....	29,137	9,602	21,498,769
1953.....	30,005	10,607	26,332,903
1954.....	30,650	11,737	26,920,255
1955.....	32,471	12,883	28,578,001

CHAPTER VII.—CRIME AND DELINQUENCY*

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Section 1.—Canadian Criminal Law and Procedure†

The system under which justice is administered in a State is never rigid. To have it so would be neither expedient nor indeed possible. A judicial system has to grow and adapt itself to the requirements of the people and the exact limits of the powers of different legislative bodies require continued definition.

The criminal law of Canada has as its foundation the criminal common law of England built up through the ages and consisting first of customs and usages, and later expanded by principles enunciated by generations of judges. There is no statutory declaration of the introduction of English criminal law into those parts of Canada that are now the Provinces of New Brunswick, Nova Scotia and Prince Edward Island. Its introduction there depends upon a principle of the common law itself by which English law was declared to be in force in uninhabited territory discovered and planted by British subjects, except in so far as local conditions made it inapplicable. The same may be said of Newfoundland although the colony dealt with the subject in a statute of 1837. In Quebec its reception depends upon a Royal Proclamation of 1763 and the Quebec Act of 1774. In each of the other provinces and in the Yukon and Northwest Territories the matter has been dealt with by statute.

The judicial systems of the provinces as they exist today are based upon the British North America Act of 1867. Sect. 91 of that Act provides that "The exclusive legislative authority of the Parliament of Canada extends to . . . the criminal law, except the constitution of courts of criminal jurisdiction but including the procedure in criminal matters". By Sect. 92 (14), the legislature of the province exclusively may make laws in relation to "the administration of justice in the province, including the constitution, maintenance and organization of provincial courts, both of civil and criminal jurisdiction and including procedure in civil matters in its courts". The Parliament of Canada may however (Sect. 101) establish any additional courts for the better administration of the laws of Canada. It should be noted that the Statute of Westminster, 1931 effected important

* Except as otherwise credited, this Chapter has been revised in the Judicial Section, Health and Welfare Division, Dominion Bureau of Statistics.

† Prepared by the Criminal Law Section, Department of Justice, Ottawa.

changes particularly by abrogating the Colonial Laws Validity Act, 1865 (U.K.) and confirming the right of a dominion to make laws having extraterritorial operation. Particulars of the federal judiciaries are given in Chapter II, pp. 82-83 and provincial judiciaries are dealt with briefly at pp. 83-84; more detailed information on provincial judiciaries is given in the 1954 Year Book, pp. 48-55.

At the time of Confederation each of the colonies affected had its own body of statutes relating to the criminal law. In 1869 in an endeavour to assimilate them into a uniform system applicable throughout Canada, Parliament passed a series of Acts some of which dealt with offences of special kinds and others with procedure. Most notable of the latter was the Criminal Procedure Act, but other Acts provided for the speedy trial or summary trial of indictable offences, the powers and jurisdiction of justices of the peace in summary conviction matters and otherwise, and the procedure in respect of juvenile offenders.

Codification of the criminal law through a Criminal Code Bill founded on the English draft code of 1878, Stephen's *Digest of Criminal Law*, Burbridge's *Digest of the Canadian Criminal Law*, and the relevant Canadian statutes was brought about by the Minister of Justice, Sir John Thompson, in 1892. This Bill became the Criminal Code of Canada and came into force on July 1, 1893. It must be remembered however that the Criminal Code was not exhaustive of the criminal law. It was still necessary to refer to English law in certain matters of procedure and it was still possible to prosecute for offences at common law. Moreover Parliament has declared offences against certain other Acts, e.g., the Opium and Narcotic Drug Act, to be criminal offences and the same was done in the Defence of Canada Regulations and the Wartime Prices and Trade Board Regulations (neither now in force) promulgated under the authority of the War Measures Act.

It is often difficult to distinguish between "law" and "procedure". Procedure may be interpreted to relate simply to the organic working of the courts but, in a wider sense, it may also affect the rights or alter the legal relations arising out of any given state of facts. For present purposes it will be useful to note that writers on jurisprudence describe law as being substantive or adjective. "Substantive law is concerned with the ends which the administration of justice seeks; procedural (adjective) law deals with the means and instruments by which these ends are to be obtained."* With reference to the criminal law the former may be taken to include the provisions concerning criminal responsibility, the definition of 'offences' and the punishment for those offences, and the latter to include provisions for enforcement, e.g., powers to search and to arrest, for the modes of trial and for the proof of facts. Broadly speaking, the Criminal Code observes the distinction although it might appear that the provisions for preventive detention of habitual criminals and criminal sexual psychopaths partake of the nature of both classes.

An examination and study of the Criminal Code was authorized by Order in Council dated Feb. 3, 1949 and the Commission which was assigned the task of revising the Code presented its report with a draft Bill in February 1952. After coming before successive sessions of Parliament it was finally passed on June 15, 1954 and the new Criminal Code (2-3 Elizabeth II, c. 51) came into effect on Apr. 1, 1955.

The new Code effects changes in detail but continues the general features of the former system. A short outline of the system that existed under the repealed Code together with the major revisions effected by the new Code is given in the 1955 Year Book, pp. 295-298.

Section 2.—Adult Offenders and Convictions

The main interest in criminal statistics is concerned with those persons guilty of the more serious crimes. Such offenders are fewer than those who commit non-indictable offences but, from the standpoint of the protection of society, they are more important.

In 1949 the basis of the statistics of indictable crimes was changed from *convictions* to *persons* so that the figures for 1949 and subsequent years are not comparable with those for previous years. Where any person is prosecuted at the same hearing for several

* Salmond on *Jurisprudence*, 7th Edition, p. 496.

offences, one offence has to be selected for tabulation. The rule followed is to select that for which the proceedings were carried to the furthest stage—to conviction and sentence if the prisoner was tried on several charges; if there were several convictions, the offence selected is that for which the heaviest punishment was awarded; if the final result of proceedings on two or more charges were the same, the most serious offence (as measured by the maximum penalty allowed by the law) appears in the tables. Where a person was prosecuted for one offence and convicted of another (e.g., charged with murder and convicted of manslaughter), the case appears only under the offence for which he was convicted.

In the case of non-indictable offences the figures continue to be based on convictions and are thus comparable with those for earlier years.

Statistics include only cases finally determined within the year. Cases not entirely disposed of within the year (e.g., tried but sentence postponed) are held over for the next year's report.

In 1950 the reporting year for criminal statistics was changed from the 12 months ended Sept. 30 to the calendar year. Also figures for Newfoundland were included for the first time in 1951.

Subsection 1.—Adults Convicted of Indictable Offences

During the year 1953 the courts of Canada dealt with 34,027 adults charged with 53,946 indictable crimes, of whom 29,567 were found guilty of 45,071 offences. These figures show little change from those for 1952 when 35,086 adults were charged with 51,125 indictable crimes and 29,761 were found guilty of 41,591 offences.

1.—Adults Convicted of Indictable Offences and Ratio per 10,000 Population 16 Years of Age or Over by Province 1952 and 1953

Province or Territory	1952		1953	
	Persons Convicted	Ratio per 10,000 Population	Persons Convicted	Ratio per 10,000 Population
	No.	No.	No.	No.
Newfoundland.....	534	24	508	23
Prince Edward Island.....	89	14	270	40
Nova Scotia.....	1,216	28	1,543	36
New Brunswick.....	782	24	717	22
Quebec.....	5,723	21	6,122	22
Ontario.....	12,464	37	11,816	34
Manitoba.....	1,633	29	1,569	34
Saskatchewan.....	1,074	19	1,068	18
Alberta.....	2,452	37	2,300	34
British Columbia.....	3,703	43	3,582	41
Yukon and Northwest Territories.....	91	55	72	44
Canada.....	29,761	30	29,567	30

Indictable offences are grouped into six classes as shown in Table 2. In 1953 persons convicted of assaults of various kinds and obstructing police represented 79.7 p.c. of Class I, which covers crimes against the person. In that year 10 persons were convicted of murder, 3 of attempted murder and 79 of manslaughter as compared with 18, 3 and 77 respectively in 1952.

Classes II to V cover offences against property. Thieves predominate among the offenders in these classes and burglars and robbers whose serious crimes involve acts of violence are the next most numerous. In Class VI which includes miscellaneous offences the most numerous convictions are for offences connected with the improper operation of motor vehicles. In 1953 there were 337 offenders under the Opium and Narcotic Drug Act, of whom 286 were convicted of possessing heroin, 241 were males and 293 were born in Canada. British Columbia courts convicted 65.3 p.c. of the drug offenders and Ontario courts 25.2 p.c.

The increase or decrease for each classification in 1953 as compared with 1952 is given in Table 2.

2.—Adults Charged and Convicted of Indictable Offences by Class of Offence 1952 and 1953

Class and Offence	1952			1953			Increase or Decrease in Persons Convicted
	Adults Charged	Adults Convicted		Adults Charged	Adults Convicted		
		M.	F.		M.	F.	
	No.	No.	No.	No.	No.	No.	p.c.
Class I.—Offences against the Person	7,267	5,237	306	7,172	5,394	273	+ 2.2
Abduction	20	14	—	23	16	—	+14.3
Assault, common, aggravated and on police	5,042	3,640	234	4,891	3,663	201	— 0.3
Offences against females ¹	1,183	852	25	1,137	874	24	+ 2.4
Manslaughter and murder	180	87	8	173	83	6	— 6.3
Attempted murder; shooting and wounding	315	214	13	300	218	13	+ 1.8
Non-support, desertion	165	133	7	187	158	5	+16.4
Other offences against the person	362	297	19	461	382	24	+28.5
Class II.—Offences against Property with Violence	4,559	3,970	70	4,592	4,114	60	+ 3.3
Burglary and robbery	4,559	3,970	70	4,592	4,114	60	+ 3.3
Class III.—Offences against Property without Violence	14,281	11,311	1,018	13,010	10,632	875	— 6.7
Fraud, embezzlement and false pretences	2,010	1,579	128	1,890	1,497	131	— 4.6
Receiving stolen goods	1,055	779	64	1,073	824	54	+ 4.2
Theft	11,216	8,953	826	10,047	8,311	690	— 8.0
Class IV.—Malicious Offences against Property	706	558	29	405	328	16	—41.4
Arson	74	57	2	105	82	6	+49.2
Malicious damage to property	632	501	27	300	246	10	—51.5
Class V.—Forgery and Other Offences against the Currency	671	575	63	624	534	60	— 6.9
Offences against currency	10	6	2	9	8	—	—
Forgery and uttering forged documents	661	569	61	615	526	60	— 7.0
Class VI.—Offences not included in the Foregoing Classes	7,602	6,134	490	8,224	6,799	482	+ 9.9
Dangerous or reckless driving	1,003	851	19	903	694	9	—19.2
Driving car while ability impaired	1,353	1,260	16	2,836	2,699	37	+114.4
Driving car while drunk	1,727	1,482	25	1,263	1,063	12	—28.7
Opium and Narcotic Drug Act, offences against	441	262	105	384	241	96	— 8.2
Gambling and lotteries	463	361	36	491	382	35	+ 5.0
Keeping bawdy houses and inmates	321	116	158	266	45	170	—21.5
Various	2,294	1,802	131	2,081	1,675	123	— 7.0
Grand Totals	35,086	27,785	1,976	34,027	27,801	1,766	— 0.7

¹ Includes abortion, assault against females or wife, indecent assault, carnal knowledge, incest, procuration, rape, attempted rape and seduction.

Table 3 shows that in 1953, 55.5 p.c. of the persons convicted of indictable offences had not gone beyond elementary school grades in education, 40.0 p.c. were 24 years of age or younger, 11.5 p.c. were 45 years of age or over, and 72.2 p.c. lived in urban centres. Of these offenders 94.0 p.c. were males, 89.4 p.c. were born in Canada, 54.9 p.c. were unmarried, 25.9 p.c. were recorded as labourers and 6.3 p.c. had no remunerative employment. These percentages have changed very little in recent years.

3.—Persons Convicted of Indictable Offences classified by Occupation, Marital Status, Sex, Birthplace, etc. 1952 and 1953

Item	1952	1953	Item	1952	1953
No.	No.	No.	No.	No.	No.
Total Convictions.....	29,761	29,567	EDUCATIONAL STATUS		
TYPE OF OCCUPATION			Unable to read or write.....	847	830
Agriculture.....	1,842	2,012	Elementary.....	17,460	16,411
Armed Services.....	777	860	High School.....	8,214	8,498
Clerical.....	792	781	Superior.....	590	556
Commercial and managerial.....	1,833	2,281	Grade not stated.....	—	1,125
Construction.....	3,270	2,248	Not given.....	2,650	2,147
Finance and insurance.....	91	79			
Fishing, trapping and logging.....	1,608	1,658	AGE		
Labourer.....	6,839	7,660	16 to 19 years.....	5,429	5,315
Manufacturing and mechanical.....	3,118	3,065	20 to 24 years.....	6,464	6,517
Mining.....	779	706	25 to 44 years.....	13,448	13,283
Service—			45 years or over.....	3,358	3,394
Domestic.....	599	593	Not given.....	1,062	1,058
Personal.....	1,038	765			
Professional.....	260	325	BIRTHPLACE		
Public and protective.....	153	98	Canada.....	26,737	26,441
Student.....	465	467	British Isles and other Common-		
Other.....	97	59	wealth.....	828	753
Transportation and communica-	3,208	3,095	United States.....	387	371
Unemployed and retired (incl.	2,043	1,877	Europe.....	1,196	1,116
housewives).....	949	938	Asia.....	76	62
MARITAL STATUS			Other foreign countries.....	5	10
Single.....	16,425	16,228	Not given.....	532	814
Married.....	11,052	11,043			
Widowed.....	386	382	RESIDENCE		
Divorced.....	191	159	Urban centres.....	21,953	21,363
Separated.....	613	628	Rural districts.....	7,377	7,708
Not given.....	1,094	1,127	Indeterminate.....	—	34
SEX			Not given.....	431	462
Male.....	27,785	27,801			
Female.....	1,976	1,766			

Female Offenders.—There were 1,766 female offenders convicted of indictable offences in 1953, 42.1 p.c. of whom were in Ontario and 17.6 p.c. in Quebec. Of the total convicted in that year 41.8 p.c. were found guilty of theft and receiving stolen goods and 11.5 p.c. were committed for assault. Six women were convicted of manslaughter.

4.—Females Convicted of Indictable Offences by Province 1952 and 1953

Province or Territory	Females Convicted		Females Convicted to Total Convictions	
	1952	1953	1952	1953
	No.	No.	p.c.	p.c.
Newfoundland.....	36	27	6.7	5.3
Prince Edward Island.....	1	6	1.1	2.2
Nova Scotia.....	59	60	4.9	3.9
New Brunswick.....	25	33	3.1	4.6
Quebec.....	344	311	6.0	5.1
Ontario.....	822	743	6.6	6.3
Manitoba.....	188	156	11.5	9.9
Saskatchewan.....	61	37	5.8	3.5
Alberta.....	146	128	6.0	5.6
British Columbia.....	288	259	7.8	7.2
Yukon and Northwest Territories.....	6	6	6.7	8.3
Canada.....	1,976	1,766	6.6	6.0

Persons with Multiple Convictions.—Table 5 shows the number of persons having more than one conviction at a court appearance for the years 1949-53. Multiple convictions occur most often in cases of forgery and uttering, false pretences, theft, receiving stolen goods and burglary.

5.—Persons Convicted of More than One Offence at the Time of Trial compared with Persons Convicted of One Offence 1949-53

NOTE.—Figures for years prior to 1951 are for the 12 months ended Sept. 30; those for 1951-53 are for the calendar year.

Item	1949	1950	1951	1952	1953
	No.	No.	No.	No.	No.
Persons Convicted of—	2,593	1,769	1,669	2,409	3,248
2 offences.....	814	507	562	759	971
3 ".....	363	275	248	360	437
4 ".....	195	174	162	186	259
5 ".....	120	108	117	144	222
6 ".....	63	70	75	106	122
7 ".....	63	50	50	79	92
8 ".....	46	46	26	51	67
9 ".....	56	31	32	47	52
10 ".....	107	88	84	139	179
11 to 20 offences.....	30	14	28	50	57
21 offences or over.....					
Totals, Convicted of More than One Offence.....	4,450	3,132	3,053	4,330	5,706
Totals, Convicted of One Offence.....	26,472	28,253	25,927	25,431	23,861
Grand Totals.....	30,922	31,385	28,980	29,761	29,567

Disposition of Cases and Recidivism.—Of all suspects before the courts for indictable crimes in 1953, 86.9 p.c. were adjudged guilty; the convictions against males (87.3 p.c.) constituted a higher percentage than those against females (81.3 p.c.) and varied greatly as between provinces. Prince Edward Island showed the highest percentage (99.6 p.c.) of convictions and Nova Scotia the lowest (80.5 p.c.).

6.—Persons Charged and Convictions for Indictable Offences by Province 1952 and 1953

Province or Territory	1952			1953		
	Charges	Convictions		Charges	Convictions	
	No.	No.	p.c.	No.	No.	p.c.
Newfoundland.....	659	534	81.0	556	508	91.4
Prince Edward Island.....	93	89	95.7	271	270	99.6
Nova Scotia.....	1,703	1,216	71.4	1,917	1,543	80.5
New Brunswick.....	827	782	94.6	765	717	93.7
Quebec.....	6,506	5,723	88.0	6,970	6,122	87.8
Ontario.....	15,495	12,464	80.4	14,328	11,816	82.5
Manitoba.....	1,781	1,633	91.7	1,673	1,569	93.8
Saskatchewan.....	1,133	1,074	94.8	1,121	1,068	95.3
Alberta.....	2,642	2,452	92.8	2,395	2,300	96.0
British Columbia.....	4,156	3,703	89.1	3,957	3,582	90.5
Yukon and Northwest Territories.....	91	91	100.0	74	72	97.3
Canada.....	35,086	29,761	84.8	34,027	29,567	86.9

In 1953, 46.9 p.c. of the convicted persons had no previous conviction, 8.7 p.c. had previously been found guilty of one offence and 18.4 p.c. had two or more earlier convictions. Court records for the other 26.0 p.c. were not obtained.

7.—Persons Charged with Indictable Offences and Disposition of Cases 1952 and 1953

Item	1952	1953	Item	1952	1953
	No.	No.		No.	No.
Charges.....	35,086	34,027	Convictions of males.....	27,785	27,801
Acquittals.....	5,070	4,139	Convictions of females.....	1,976	1,766
Disagreement of jury.....	10	6	First convictions.....	14,565	13,858
Stay of proceedings.....	131	228	Second convictions.....	2,448	2,567
No bill and <i>nolle prosequi</i>	63	33	Reiterated convictions.....	6,162	5,453
Detention because of insanity.....	51	54	Not given.....	6,586	7,689

Sentences.—In 1953, 35.1 p.c. of the persons convicted of indictable crimes were fined, 34.3 p.c. were sent to gaol without option of fine, 5.0 p.c. were committed to reformatories and 7.0 p.c. to penitentiaries and 18.6 p.c. were given suspended sentences or put on probation. Five habitual criminals were given preventive detention, five persons received life sentences and 10 were given the death penalty. The proportions in 1953 were much the same as in recent preceding years.

8.—Sentences given for Indictable Offences by Province 1953 with Totals for 1952

Sentence	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada 1953	Canada 1952
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Option of fine.....	271	195	678	274	2,208	3,535	480	437	753	1,517	23	10,371	9,489
Gaol—													
Under one year...	132	45	344	252	1,966	3,302	380	374	743	911	30	8,479	9,169
One year or over..	14	3	35	11	329	406	158	117	283	316	4	1,676	1,613
Reformatory.....	—	—	7	4	59	1,258	35	—	33	82	—	1,478	1,904
Penitentiary—													
Two years and													
under five.....	5	11	161	59	675	361	92	31	155	193	4	1,747	1,642
Five years or over.	2	1	9	—	120	105	8	—	14	45	—	304	267
Life.....	—	—	—	—	3	1	—	—	—	1	—	5	8
Preventive deten- tion.....	—	—	—	—	—	2	—	1	1	1	—	5	5
Death.....	—	—	—	—	2	4	—	1	3	—	—	10	17
Suspended sentence or other disposi- tion.....	84	15	309	117	760	2,842	416	107	315	516	11	5,492	5,647
Totals.....	508	270	1,543	717	6,122	11,816	1,569	1,068	2,300	3,582	72	29,567	29,761

Court Proceedings.—In 1953, 66.2 p.c. of the persons tried by jury were convicted; speedy trials (by court after waiver of jury trial) brought convictions in 74.7 p.c. of the cases so tried and summary trials by magistrates ended in convictions in 82.6 p.c. of the cases.

Of persons charged on indictment 91.7 p.c. were tried by magistrate or family and juvenile court judge, 6.0 p.c. in county and district courts and 2.3 p.c. in higher courts.

9.—Method of Trial of Persons Charged with Indictable Crimes, showing Disposition of Cases by Sex and by Province 1953

Method of Trial	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
By Jury—												
Convicted.....	M. 5 F. —	8 —	42 1	11 2	156 6	202 11	22 1	13 3	48 —	61 3	— —	568 27
Acquitted.....	M. 7 F. —	— —	15 —	11 —	52 3	83 3	11 —	6 1	2 —	30 2	1 —	218 9
Detained because of insanity.....	M. 1 F. —	— —	— —	— —	2 —	2 —	— —	2 —	— —	1 —	— —	8 —
Disagreement of Jury. Stay of Proceedings... No Bill and Nolle Prosequi.....	M. — F. —	— —	— —	5 —	6 —	11 —	— 1	— —	1 —	3 1	— —	26 2
By Speedy Trial—												
Convicted.....	M. 1 F. —	8 —	71 2	25 2	580 22	297 14	42 6	88 2	188 5	176 9	— —	1,476 62
Acquitted.....	M. — F. —	1 —	5 —	— —	187 12	112 10	12 1	14 2	21 1	41 5	1 —	394 31
Detained because of insanity.....	M. — F. —	— —	— —	— —	— —	1 —	— —	— —	— —	— —	— —	1 —
Stay of Proceedings... No Bill and Nolle Prosequi.....	M. — F. —	— —	— —	— —	1 —	— —	— —	— —	5 1	5 —	— —	11 1
By Summary Trial—												
Convicted.....	M. 475 F. 27	248 6	1,370 57	648 29	5,075 283	10,574 718	1,349 149	930 32	1,936 123	3,086 247	66 6	25,757 1,677
Acquitted.....	M. 38 F. 2	— —	285 59	32 —	430 43	2,066 187	44 2	26 2	50 7	186 28	— —	3,157 330
Detained because of insanity.....	M. — F. —	— —	6 2	— —	4 —	24 6	— 1	— —	1 —	1 —	— —	36 9
Stay of Proceedings... No Bill and Nolle Prosequi.....	M. — F. —	— —	2 —	— —	101 7	5 2	29 3	— —	3 3	63 9	— —	203 24
Totals, Persons Charged.	556	271	1,917	765	6,970	14,328	1,673	1,121	2,395	3,957	74	34,027
Totals, Persons Convicted.	508	270	1,543	717	6,122	11,816	1,569	1,068	2,300	3,582	72	29,567

10.—Persons Charged and Convicted of Indictable Crimes according to Trial Court by Province 1953

Province or Territory	Persons Charged and Convicted by—					Totals
	Police Magistrate or Recorder's Court	Justice of the Peace	Juvenile or Family Court	County Court	Higher Court	
	No.	No.	No.	No.	No.	No.
Newfoundland.....	Charged 535	—	7	1	13	556
	Convicted 495	—	7	1	5	508
Prince Edward Island.....	Charged 254	—	—	9	8	271
	Convicted 254	—	—	8	8	270
Nova Scotia.....	Charged 1,777	—	4	78	58	1,917
	Convicted 1,424	—	3	73	43	1,543
New Brunswick.....	Charged 709	—	—	38	18	765
	Convicted 677	—	—	33	7	717
Quebec.....	Charged 5,314	53	576	802	225	6,970
	Convicted 4,782	52	524	602	162	6,122
Ontario.....	Charged 13,553	—	29	509	237	14,328
	Convicted 11,265	—	27	361	163	11,816
Manitoba.....	Charged 1,494	—	83	61	35	1,673
	Convicted 1,421	—	77	48	23	1,569
Saskatchewan.....	Charged 989	—	1	106	25	1,121
	Convicted 962	—	—	91	15	1,068
Alberta.....	Charged 2,110	—	13	217	55	2,395
	Convicted 2,051	—	8	190	51	2,300
British Columbia.....	Charged 3,447	—	173	238	99	3,957
	Convicted 3,174	—	159	187	0.	3,582
Yukon and Northwest Territories....	Charged 70	2	—	1	1	74
	Convicted 70	2	—	—	—	72
Canada.....	Charged 30,252	55	886	2,060	774	34,027
	Convicted 26,575	54	805	1,594	539	29,567

Subsection 2.—Young Adult Offenders (16-24 Years)

Young men and women from 16 to 24 years of age each year form about 40 p.c. of the criminal population who commit indictable offences but they comprise less than 20 p.c. of the total population 16 years of age or over. As this age group includes some of the most daring offenders who may be already experienced criminals as well as first offenders likely to be turned from crime by further education and training, it seems worth while to give consideration to offenders in this group as distinct from offenders in the older age groups.

Of the young offenders in 1953, 71.2 p.c. were tried in three provinces—Ontario 37.4 p.c., Quebec 21.9 p.c., and British Columbia 11.9 p.c.; 44.9 p.c. of them were still under 20 years of age.

11.—Young Adult Offenders by Age Group, Sex and Province 1953

Age Group and Sex	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
16-17 years.....M. F.	38 5	9 —	135 3	51 1	699 16	884 38	109 25	104 4	195 18	330 20	—	2,556 130
18-19 ".....M. F.	33 1	22 —	160 6	49 5	456 13	995 59	121 16	133 6	240 18	270 20	5 1	2,484 145
20-24 ".....M. F.	133 6	50 —	354 12	171 5	1,340 72	2,297 153	293 31	243 7	536 32	726 47	8 1	6,151 366
Totals.....	216	81	670	282	2,596	4,426	595	497	1,039	1,413	17	11,832

In 1953, 28 of the 73 men found guilty of manslaughter and 19 of the 43 convicted of rape were under 25 years of age; 62.9 p.c. of the men found guilty of burglary and robbery were in that group as well as 46.8 p.c. of those convicted of offences against property without violence, which includes all thefts, 79.7 p.c. of those responsible for stolen automobiles, 50.6 p.c. of those who maliciously damaged property, 41.1 p.c. of those found carrying offensive weapons and 47.2 p.c. of the prison escapers.

There were 1,766 women offenders in 1953, 641 of them under 25 years of age; nearly half (311) of the young offenders were guilty of receiving stolen goods. Of the 96 women convicted under the Opium and Narcotic Drug Act, 33 were in the young group as were 29 of the 60 found guilty of forgery and uttering; 3 of the 15 female prison escapers were also young women.

12.—Young Adult Offenders Convicted of Indictable Offences by Class of Offence and Sex 1952 and 1953

Class and Offence	1952		1953	
	Male	Female	Male	Female
	No.	No.	No.	No.
Class I.—Offences against the Person.....	1,606	75	1,731	61
Abduction.....	8	—	10	—
Assault, common and aggravated.....	803	45	832	28
Offences against females ¹	233	6	235	3
Manslaughter and murder.....	27	4	30	2
Attempted murder; shooting and wounding.....	57	—	70	4
Non-support, desertion and cruelty to children.....	16	2	16	2
Other offences against the person.....	462	18	538	22
Class II.—Offences against Property with Violence.....	2,565	39	2,589	30
Burglary and robbery.....	2,565	39	2,589	30
Class III.—Offences against Property without Violence....	5,055	399	4,977	361
Fraud, embezzlement and false pretences.....	379	46	353	50
Receiving stolen goods.....	339	26	333	26
Theft.....	4,337	327	4,291	285
Class IV.—Malicious Offences against Property.....	285	10	166	7
Arson.....	22	1	30	1
Malicious damage to property.....	263	9	136	6
Class V.—Forgery and Other Offences against the Cur- rency.....	198	35	190	29
Offences against currency.....	1	1	2	—
Forgery and uttering forged documents.....	197	34	188	29

¹For footnote, see end of table.

12.—Young Adult Offenders Convicted of Indictable Offences by Class of Offence and Sex 1952 and 1953—concluded

Class and Offence	1952		1953	
	Male	Female	Male	Female
	No.	No.	No.	No.
Class VI.—Other Offences	1,465	161	1,538	153
Carrying unlawful weapons.....	33	1	92	1
Dangerous or reckless driving.....	242	2	247	2
Driving car while ability impaired.....	212	2	420	4
Driving car while drunk.....	233	—	146	3
Offences against public morals.....	5	11	4	12
Opium and Narcotic Drug Act, offences against.....	45	37	45	33
Gambling and lotteries.....	19	1	23	3
Keeping bawdy houses and inmates.....	6	49	7	47
Riots and unlawful assembly.....	194	1	201	7
Various.....	426	57	353	41
Grand Totals	11,174	719	11,191	641

¹ Includes abortion, assault against females, assault against wife, indecent assault, carnal knowledge, incest, procuration, rape, attempted rape, seduction and wife desertion.

Table 13 shows the proportions of young offenders per 100,000 population in three age groups.

13.—Numbers per 100,000 Population of Young Adults Convicted of Indictable Offences by Age Group 1952 and 1953

Age Group	1952			1953		
	Offenders	Per 100,000 Population in Respective Group	Change from Preceding Year	Offenders	Per 100,000 Population in Respective Group	Change from Preceding Year
	No.		p.c.	No.		p.c.
16-17 years.....	2,538	596	-8.7	2,686	622	+5.8
18-19 ".....	2,891	680	+4.9	2,629	615	-9.1
20-24 ".....	6,464	588	+2.2	6,517	592	+0.8

The sentences meted out to these young people vary somewhat from those given to offenders over 24 years of age. Usually a higher proportion of them are given suspended sentences, put on probation or sent to reformatories and a lower proportion fined or given gaol sentences.

14.—Disposition of Sentences for Indictable Offences by Sex 1953

Disposition of Sentences	Males		Females	
	16-24 Years	25 Years or Over	16-24 Years	25 Years or Over
	No.	No.	No.	No.
Suspended sentence.....	1,060	1,057	99	177
Probation.....	1,898	987	162	142
Fine.....	3,027	6,808	126	410
Gaol.....	3,666	5,989	190	310
Reformatory.....	810	562	54	52
Penitentiary.....	818	1,199	10	34
Death.....	2	8	—	—

Through the system of suspended sentence and probation supervising, many young offenders receive another chance to make good and reformatory training gives others an opportunity to better their employment possibilities. It is interesting to note that 32.6 p.c. of the young male offenders in 1953 were recorded as labourers, indicating that they had no particular skill by which to earn a living; the proportion of male offenders over 25 years of age recorded as labourers was 24.1 p.c. Those recorded as students made up 3.8 p.c. of the youths and 5.1 p.c. were reported as unemployed as compared with 1.3 p.c. of the older men. Approximately two of every three lived in urban centres.

Subsection 3.—Convictions for Non-indictable Offences

Non-indictable offences—those not expressly made indictable—include all offences against provincial statutes and municipal by-laws. Non-indictable offences are triable by magistrate or justice of the peace under Part XV of the Criminal Code or under the provincial summary convictions Acts, as the case may be.

It is debatable how far summary convictions are of a criminal nature and how much their increase indicates an increase in crime. Many are breaches of municipal by-laws and contrary to public safety, health and comfort as, for example, parking violations or exercising callings without licence, but they do not involve violence, cruelty or serious dishonesty. On the other hand, offences as serious as cruelty to animals and contributing to juvenile delinquency are included under this classification and such indictable offences as common assault and driving with ability impaired may be tried on summary conviction.

Summary convictions increased by 12.6 p.c. to 1,763,622 in 1953 from 1,565,707 in 1952. Increases were general in all provinces except Prince Edward Island.

15.—Convictions for Non-indictable Offences by Province 1944-53

NOTE.—Figures for years before 1951 are for the 12 months ended Sept. 30, 1951; 1952 and 1953 figures are for the calendar year. Statistics for the intervening months, October-December 1950, are given in DBS report, *Statistics of Criminal and Other Offences*. Figures for 1900-43 are given in the corresponding table of previous Year Books beginning with the 1933 edition.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1944.....	...	1,287	8,760	9,533	146,593	199,938	22,602	7,788	11,950	21,866	336	74	430,727
1945.....	...	1,394	9,786	9,818	158,580	209,713	22,820	8,996	11,576	22,887	312	36	455,918
1946.....	...	2,715	12,915	13,925	176,996	354,154	36,014	13,985	16,289	32,203	234	242	659,672
1947.....	...	2,806	12,019	14,097	188,835	407,334	47,170	15,263	18,696	45,585	328	325	752,458
1948.....	...	2,696	13,699	12,189	228,502	445,911	52,783	15,488	19,748	85,006	385	238	876,645
1949.....	..	3,118	12,617	13,131	232,132	510,837	72,023	16,465	25,551	94,326	232	57	980,489
1950.....	...	2,095	13,137	21,732	280,868	617,565	79,079	22,717	28,344	117,729	553	172	1,183,991
1951.....	...	2,195	14,850	25,660	207,648	671,893	118,217	22,467	39,956	139,304	950	304	1,308,466
1952.....	6,191	2,578	14,977	31,905	312,892	819,253	135,034	31,618	50,443	158,967	1,342	507	1,565,707
1953.....	6,315	2,529	17,292	33,308	352,009	960,764	135,757	34,764	57,463	161,382	1,432	607	1,763,622

In considering statistics of summary convictions it should be remembered that such convictions are greatly influenced by the customs of the people and by the application and degree of enforcement of municipal regulations. These differ from place to place and from year to year and affect non-indictable offences more than they do indictable crimes.

In 1953 increases appeared in convictions for driving while intoxicated, dangerous and reckless driving, petty thefts and in convictions for offences against the Food and Drugs Act, the Inspection and Sale Act, the Railway Acts, the Master and Servant Act and the Highway Traffic Act. Offsetting these increases was the considerable decline under the item "Radio without a licence", a requirement no longer in effect. Decreases were also shown for offences against the Wartime Prices and Trade Board Act, which should decline yearly, the Weights and Measures Act and the Prairie and Forest Act.

16.—Convictions for Non-indictable Offences by Type 1949-53

NOTE.—See headnote to Table 15, p. 326.

Type of Offence	1949	1950	1951	1952	1953	Increase or Decrease 1952-53
	No.	No.	No.	No.	No.	p. c.
Assault (common).....	4,607	3,906	4,046	4,546	4,645	+ 2.2
Disturbing the peace.....	11,018	10,568	12,210	12,760	13,203	+ 3.5
Drunkenness.....	75,931	75,935	83,898	85,682	91,182	+ 6.4
Vagrancy.....	8,576	8,967	6,893	6,956	8,377	+20.4
Damage to property.....	1,675	1,720	1,678	2,143	2,406	+12.3
Gambling Acts, offences against.....	6,360	4,818	3,613	2,656	2,759	+ 3.9
Bawdy houses (frequenting).....	586	480	273	434	390	-10.4
Non-support and neglecting children.....	4,217	4,459	4,609	5,178	5,764	+11.3
Contributing to delinquency.....	1,087	1,126	932	1,349	1,720	+27.5
Traffic regulations.....	761,467	938,549	1,065,426	1,311,022	1,505,931	+14.9
Provincial and Federal Acts—						
Game and Fishing Acts.....	5,854	6,144	5,996	5,839	6,397	+ 9.6
Indian Act.....	2,386	2,426	2,213	2,549	3,117	+22.7
Liquor Control and Temperance Acts.....	28,259	31,738	28,405	33,335	34,972	+ 4.9
Lord's Day Act.....	1,014	2,072	749	666	625	- 6.2
Radio without a licence.....	12,235	10,642	12,418	11,273	—	-100.0
Railway Acts.....	1,827	2,278	1,266	1,427	2,093	+46.7
Revenue Laws ¹	2,704	3,175	5,292	6,259	6,629	+ 5.9
Other provincial and federal Acts.....	13,240	20,399	18,980	17,989	24,082	+33.9
Municipal by-laws, breaches of.....	30,387	44,349	40,621	44,258	39,415	-11.0
Exercising various callings without licence.....	1,359	2,580	2,349	2,433	2,249	- 7.6
Other offences.....	5,700	7,660	6,599	6,953	7,666	+10.3
Totals, Convictions.....	980,489	1,183,991	1,308,466	1,565,707	1,763,622	+12.6

¹ Includes Excise and Income Tax Acts.

17.—Convictions for Breaches of Traffic Regulations by Province 1944-53

NOTE.—See headnote to Table 15, p. 326.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1944.....	...	326	1,591	1,838	85,134	146,849	16,268	2,864	4,754	10,387	10	270,021
1945.....	...	157	1,359	2,211	100,708	149,903	14,886	2,838	3,774	10,985	4	286,825
1946.....	...	327	1,707	2,014	123,915	271,379	26,266	5,253	5,574	17,193	2	453,630
1947.....	...	556	2,370	2,667	138,321	315,412	36,526	6,141	7,476	28,043	7	537,519
1948.....	...	393	4,607	2,469	174,021	352,253	41,074	6,300	7,984	60,493	5	649,599
1949.....	..	519	4,084	3,729	188,003	417,016	60,127	7,274	11,112	69,545	58	761,467
1950.....	...	366	4,265	11,909	227,857	508,010	67,832	12,362	13,772	92,038	138	938,549
1951.....	1,773	580	5,802	15,641	215,222	570,895	106,262	13,325	22,923	112,738	265	1,065,426
1952.....	2,565	765	5,109	20,358	266,835	714,810	122,647	19,749	25,693	132,123	368	1,311,022
1953.....	2,719	760	6,014	21,296	309,064	857,117	122,370	21,957	30,846	133,295	493	1,505,931

For the year 1953 Ontario, with 44.8 p.c. of the registrations of motor vehicles in Canada, had 56.9 p.c. of the total convictions for breaches of traffic regulations; Quebec in the same year had 17.0 p.c. of the registered vehicles and 20.5 p.c. of the convictions. In interpreting the figures in this way however it should be pointed out that traffic regulations are by no means uniform throughout Canada and no account is taken of the differences in the degrees of urbanization in the provinces. These two provinces have large urban centres but in provinces with lower degrees of urbanization, such as the Atlantic Provinces, Saskatchewan and Alberta, convictions are lower when considered in proportion to the number of motor vehicles registered.

Convictions for Drunkenness and Offences against the Liquor Acts.—In considering these convictions it should be noted that the same person may and often does appear before the courts on such charges more than once within a year and that the number of convictions may thus be well above the number of persons convicted.

18.—Convictions for Drunkenness by Province 1944-53

NOTE.—See headnote to Table 15, p. 326.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1944.....	...	395	2,068	4,292	8,843	17,258	1,451	864	1,539	4,744	54	13	41,521
1945.....	...	612	3,064	4,158	10,336	19,573	2,040	1,010	1,515	4,342	85	10	46,745
1946.....	...	1,478	4,754	7,754	7,167	29,698	2,685	1,847	2,596	5,974	85	38	64,076
1947.....	...	1,187	4,907	6,584	11,006	31,218	2,510	1,802	2,632	8,801	184	37	70,868
1948.....	...	969	4,151	4,900	11,015	33,446	2,829	1,392	2,580	9,135	101	24	70,542
1949.....	..	1,089	4,363	5,125	10,419	33,797	3,613	1,497	4,656	11,237	126	9	75,931
1950.....	..	907	3,931	4,980	10,942	35,356	2,984	1,503	3,849	11,180	240	63	75,935
1951.....	844	759	4,432	6,036	10,222	38,577	3,098	1,915	4,691	13,007	213	104	83,898
1952.....	786	1,049	5,457	6,550	10,702	36,344	3,272	2,264	5,141	13,479	462	176	85,682
1953.....	1,045	1,007	6,378	6,712	9,103	38,108	3,729	2,728	7,753	13,987	403	229	91,182

There is general interest in the relation of alcoholism to crime but, when examining statistics to support the assumption that some crimes are associated with the consumption of liquor, it should be observed that accurate interpretation would necessitate allowance for population variables such as age and sex distribution and other classifications according to social and economic status, etc.

19.—Convictions for Offences against the Liquor Acts by Province 1944-53

NOTE.—See headnote to Table 15, p. 326.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1944.....	...	56	2,240	814	1,287	8,832	1,057	1,010	1,108	1,047	119	23	17,093
1945.....	...	155	2,324	911	2,626	10,655	1,429	1,416	1,454	1,215	39	13	22,237
1946.....	...	374	3,436	1,411	2,274	15,779	2,059	2,697	2,514	2,615	57	146	33,362
1947.....	...	354	2,503	1,742	1,494	12,889	2,229	2,712	2,623	1,741	46	153	28,486
1948.....	...	329	2,274	1,274	1,519	13,891	1,921	2,311	2,670	1,443	39	73	27,744
1949.....	..	439	2,053	1,278	1,969	14,339	1,574	2,418	3,081	1,098	—	10	28,259
1950.....	..	268	2,192	1,172	3,121	15,761	1,980	2,478	3,504	1,164	64	34	31,738
1951.....	371	266	2,273	818	1,467	14,104	1,961	2,005	3,757	1,251	88	44	28,405
1952.....	475	284	2,236	1,172	777	15,050	2,314	2,527	6,782	1,381	243	94	33,335
1953.....	441	280	2,124	1,221	1,304	17,137	2,013	3,146	5,445	1,508	285	68	34,972

Convictions of Females.—The number of convictions against females for non-indictable offences was lower in 1953 by 16.5 p.c. as compared with 1952. Manitoba, New Brunswick, Ontario, Prince Edward Island, Nova Scotia and British Columbia recorded percentage decreases of 38.5, 25.5, 21.8, 17.6, 12.1 and 9.2 respectively. Traffic offences were the cause of 82.5 p.c. of all summary convictions against women but such convictions decreased by 19.3 p.c. in 1953 compared with 1952.

20.—Convictions of Females for Non-indictable Offences by Province 1949-53

NOTE.—See headnote to Table 15, p. 326.

Province or Territory	Numbers of Convictions					Percentages of Convictions of Females to Total Convictions				
	1949	1950	1951	1952	1953	1949	1950	1951	1952	1953
Newfoundland.....	..	..	206	309	328	..	..	4.1	5.0	5.2
Prince Edward Island...	66	67	40	57	47	2.1	3.2	1.8	2.2	1.9
Nova Scotia.....	349	389	471	685	602	2.8	3.0	3.2	4.6	3.5
New Brunswick.....	373	446	501	611	455	2.8	2.1	2.0	1.9	1.4
Quebec.....	7,404	10,398	9,056	7,156	9,168	3.2	3.7	3.4	2.3	2.6
Ontario.....	42,022	56,225	57,135	69,057	53,987	8.2	9.1	8.5	8.4	5.6
Manitoba.....	2,135	1,684	1,745	6,244	3,838	3.0	2.1	1.5	4.6	2.8
Saskatchewan.....	476	595	592	570	617	2.9	2.6	2.6	1.8	1.8
Alberta.....	1,224	1,194	1,208	1,668	1,812	4.8	4.2	3.0	3.1	3.2
British Columbia...	7,216	9,972	13,596	15,109	13,714	7.7	8.5	9.8	9.5	8.5
Yukon and N.W.T.....	16	42	51	136	148	5.5	5.8	4.1	7.4	7.3
Canada.....	61,251	81,012	84,601	101,502	84,716	6.3	6.8	6.5	6.5	4.8

Subsection 4.—Appeals

The disposition of appeals dealt with by the Supreme Court of Canada and the provincial supreme courts in criminal cases, together with the disposition of those dealt with by county and district courts against summary convictions is shown by province in Table 21 for the year 1953.

21.—Appeals in Indictable and Summary Conviction Cases by Province 1953

Province or Court	Appeals Disposed of by Courts	INDICTABLE OFFENCES										
		Crown Appeal					Appeal of Accused					
		From Acquittal		From Sentence			From Conviction				From Sentence	
		Dis-missed	New Trial	Con-viction	Dis-missed	Varied	Dis-missed	Ac-quitted	New Trial	Substi-tuted Ver-dict	Dis-missed	Varied
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	—	—	—	—	—	—	—	—	—	—	—	—
P. E. Island.....	3	—	—	—	—	—	1	—	—	2	—	—
Nova Scotia.....	8	—	—	—	—	2	4	1	—	—	—	1
New Brunswick....	11	—	—	4	—	—	1	2	1	2	—	1
Quebec.....	90	3	—	—	—	—	53	18	4	—	4	8
Ontario.....	279	—	1	—	1	7	142	42	13	1	38	34
Manitoba.....	40	—	—	—	—	—	13	2	—	—	23	2
Saskatchewan.....	22	2	—	—	—	—	1	3	2	—	4	10
Alberta.....	134	1	—	—	—	—	26	6	6	1	43	51
British Columbia...	232	—	3	6	5	6	94	10	5	9	48	46
Supreme Court of Canada.....	11	1	—	1	—	—	5	2	1	1	—	—
Totals.....	830	7	4	11	6	15	340	86	32	16	160	153

21.—Appeals in Indictable and Summary Conviction Cases by Province 1953—concluded

Province	Appeals Dis- posed of by Courts	SUMMARY CONVICTION CASES								
		Appeal of Informant				Appeal of Accused				
		From Acquittal		From Sentence		From Conviction			From Sentence	
		Dis- missed	Con- viction	Dis- missed	Varied	Dis- missed	Ac- quitted	Substi- tuted Verdict	Dis- missed	Varied
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	3	—	—	—	—	1	1	—	1	—
P. E. Island.....	—	—	—	—	—	—	—	—	—	—
Nova Scotia.....	95	7	4	10	—	40	17	9	8	—
New Brunswick.....	17	—	—	1	—	7	8	1	—	—
Quebec.....	55	12	—	—	—	28	9	—	4	2
Ontario.....	375	9	15	6	3	156	106	40	33	7
Manitoba.....	7	—	1	—	—	5	—	—	1	—
Saskatchewan.....	30	1	—	—	1	14	7	—	6	1
Alberta.....	135	3	9	—	—	45	28	27	16	7
British Columbia.....	165	8	7	—	1	65	69	7	2	6
Totals.....	882	40	36	17	5	361	245	84	71	23

Section 3.—Juvenile Delinquents

The Juvenile Delinquents Act defines a child as "any boy or girl apparently or actually under the age of 16 years". Provision is made however by which the Governor General in Council may proclaim that in a province the definition of a child be a "person under the age of 18 years". This has been done in British Columbia, Manitoba and Quebec. In Alberta the age of juvenile boys is "under 16 years". Newfoundland considers a juvenile to be a girl or a boy of under 17 years of age. For uniformity the figures relating to juveniles compiled by the Dominion Bureau of Statistics refer to the younger ages of under 16 years only and deal primarily with cases disposed of by the courts.

The fact that juvenile court statistics furnish the most comprehensive figures collected on a countrywide basis makes it important that their possibilities and limitations be understood. This Section gives an account of juvenile delinquency in Canada from the viewpoint of legal action taken, for in the eyes of the law a *child is a delinquent only when he or she is adjudged before the court to have committed a delinquency*. To many people the term 'juvenile delinquent' has a broader interpretation but that adopted in this Section does not include those boys and girls whose misdemeanours have not been reported to the courts or who have been given the necessary advice and aid from their parents, their school, the police or a child care agency. Moreover it does not include those cases that are handled unofficially by the court, where the judge or probation officer makes an adjustment without filing a legal record of the offence. The tendency to follow this practice and thus keep children's names from court records is growing and may account to some extent for the decreasing number of recorded court cases.

These statistics represent cases of delinquency reported to the courts, from the most trivial infractions to the most serious, that of murder. The number of cases brought before the courts is influenced by such factors as personnel and facilities of the court, community interest in and understanding of the function of a juvenile court, and by variations in the policies of the courts in the disposition of cases. As more courts are established the additional returns may exaggerate an apparent increase in delinquency or may underestimate a decrease. In some communities the juvenile court is the only available agency to provide services to children; in others there are well established agencies serving children of which the juvenile court is only one.

It should be noted too that the total figures do not represent the actual number of children charged and found guilty but rather tend to exaggerate them, for a child referred to the court two or more times during the year for different offences is counted

as a different case each time. Neither do the figures represent the number of offences committed by offenders, as when a child is charged with more than one delinquency at a hearing only the most serious offence is counted.

Reports of juvenile delinquents were received in 1953 from 158 of the 167 judicial districts. Fifteen of these had no cases to report. Separate reports were received in 1953 from 161 incorporated urban centres of 4,000 population or more.

Juveniles Before the Courts.—The number of cases of juveniles brought before the courts in 1953 was 7,829, an increase of 8.5 p.c. over 1952. Nova Scotia and Quebec showed the greatest percentage increases among the provinces.

22.—Juveniles brought before the Courts by Province 1949-53

NOTE.—Statistics for 1949 are for the 12 months ended Sept. 30; figures for 1950-53 are for the calendar year. Statistics for the three intervening months, October-December 1949, are given in DBS report *Juvenile Delinquents, 1950*. Figures for Newfoundland are included for the first time in 1951.

Province or Territory	1949	1950	1951	1952	1953	Percentage Change, 1952-53
	No.	No.	No.	No.	No.	
Newfoundland.....	—	—	194	223	207	— 7.2
Prince Edward Island.....	49	10	55	29	37	+27.6
Nova Scotia.....	485	411	554	425	594	+39.8
New Brunswick.....	218	281	275	274	247	— 9.9
Quebec.....	1,490	1,555	1,348	965	1,306	+35.3
Ontario.....	2,983	3,550	3,441	3,370	3,531	+ 4.8
Manitoba.....	490	417	404	454	405	—10.8
Saskatchewan.....	178	80	71	84	54	—35.7
Alberta.....	292	272	285	368	421	+14.4
British Columbia.....	852	722	893	1,021	1,023	+ 0.2
Yukon Territory.....	1	5	1	—	4	+400.0
Northwest Territories.....	—	1	—	—	—	—
Canada.....	7,038	7,304	7,521	7,213	7,829	+ 8.5

23.—Percentage Change in the Number of Boys and Girls brought before the Courts 1944-53

NOTE.—See headnote to Table 22.

Year	Percentage Change from Preceding Year			Percentage Change from 1943		
	Boys' Cases	Girls' Cases	All Cases	Boys' Cases	Girls' Cases	All Cases
1944.....	— 4.8	—10.5	— 5.5	— 4.8	—10.5	— 5.5
1945.....	—16.3	— 9.6	—15.6	—20.4	—19.1	—20.2
1946.....	—11.4	— 5.8	—10.8	—20.4	—23.8	—28.8
1947.....	— 3.3	—17.3	— 5.1	—31.8	—36.9	—32.4
1948.....	— 5.1	— 1.3	— 4.7	—35.3	—37.8	—35.6
1949.....	— 9.0	—24.0	—10.7	—41.1	—52.7	—42.4
1950.....	+ 2.9	+11.8	+ 3.8	—39.4	—47.1	—40.3
1951.....	+ 3.9	— 5.3	+ 3.0	—37.0	—49.9	—38.5
1952.....	— 5.0	+ 4.5	— 4.1	—40.1	—47.7	—41.0
1953.....	+ 8.3	+11.0	+ 8.5	—35.2	—42.0	—36.0

Children Adjudged Delinquent.—Over a period of ten years it has been found that between 80 and 90 p.c. of the children brought before the courts each year have been adjudged delinquent. The number of delinquents in 1953 was 6,377, an increase of 5 p.c. over 1952. As with the number of juveniles brought before the courts, the major increases in 1953 were shown in Nova Scotia and Quebec.

24.—Juvenile Delinquents by Province 1944-53

NOTE.—See headnote to Table 22, p. 331.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1944.....	...	109	475	474	2,259	4,428	416	422	565	769	—	9,917
1945.....	...	115	493	338	2,387	3,531	342	334	531	838	—	8,909
1946.....	...	55	384	382	2,155	3,104	298	195	405	878	—	7,856
1947.....	...	30	412	334	1,842	2,830	424	212	277	1,167	17	7,545
1948.....	...	28	421	263	1,864	2,799	364	169	237	999	11	7,155
1949.....	..	49	433	198	1,323	2,541	403	171	246	833	1	6,198
1950.....	..	10	351	258	1,369	3,056	400	76	204	688	6	6,418
1951.....	175	52	483	261	1,180	3,024	347	64	242	815	1	6,644
1952.....	215	29	356	267	628	2,889	409	81	317	877	—	6,068
1953.....	196	33	443	235	773	2,975	360	49	357	952	4	6,377

Offences.—Thieving is the most prevalent delinquency among boys and, together with receiving stolen goods, was the reason for shop appearance in 40·2 p.c. of all cases in 1953. Burglaries, robberies, house- and shop-breaking were committed by 24·3 p.c. of the delinquent boys and another 13·1 p.c. committed wilful acts against property. Only 2·7 p.c. of the boys were guilty of offences against the person and 49·3 p.c. of these were charged with common assault.

Incorrigibility (33·6 p.c.) and thefts (16·4 p.c.) were the complaints against 50 p.c. of the delinquent girls in 1953.

25.—Juvenile Delinquents by Group of Offence and Ratio per 100,000 Population 7-16 Years of Age 1944-53

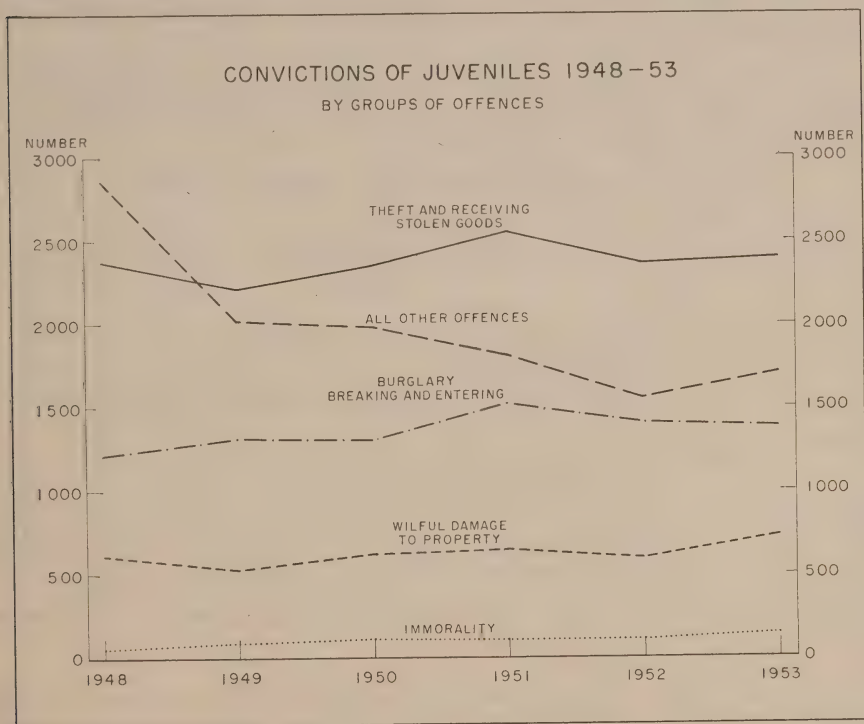
NOTE.—See headnote to Table 22, p. 331.

Year	Offences against the Person		Offences against Property with Violence		Offences against Property without Violence		Wilful Offences against Property		Forgery and Offences against Currency		Other Offences		Total Convictions	
	No.	Ratio to Population	No.	Ratio to Population	No.	Ratio to Population	No.	Ratio to Population	No.	Ratio to Population	No.	Ratio to Population	No.	Ratio to Population
1944.....	216	11	1,739	91	3,393	178	1,269	67	22	1	3,278	172	9,917	520
1945.....	220	12	1,513	80	2,964	157	1,190	63	29	2	2,993	159	8,909	473
1946.....	173	9	1,353	71	2,594	137	887	47	23	1	2,826	149	7,856	414
1947.....	189	10	1,389	72	2,449	127	677	35	23	1	2,818	147	7,545	392
1948.....	204	10	1,229	64	2,400	124	729	38	15	1	2,578	134	7,155	371
1949.....	176	9	1,346	67	2,244	113	600	30	15	1	1,817	91	6,198	311
1950.....	151	7	1,337	65	2,394	116	667	32	16	1	1,853	90	6,418	311
1951.....	188	9	1,542	72	2,563	119	765	36	20	1	1,566	73	6,644	310
1952.....	172	8	1,456	65	2,496	112	633	28	25	1	1,286	58	6,068	272
1953.....	169	7	1,416	61	2,415	103	770	33	19	1	1,588	68	6,377	273

26.—Juvenile Delinquents classified by Offence 1949-53

NOTE.—See headnote to Table 22, p. 331.

Offence	1949	1950	1951	1952	1953
	No.	No.	No.	No.	No.
Manslaughter and murder.....	4	—	—	—	5
Rape, carnal knowledge and incest.....	7	4	3	3	28
Indecent assault.....	37	36	31	19	28
Aggravated assault and wounding.....	12	26	31	27	16
Common assault.....	81	59	89	65	89
Endangering life on railway.....	11	12	9	25	11
Other offences against the person.....	23	14	25	33	20
Burglary, breaking and entering.....	1,318	1,310	1,520	1,411	1,391
Robbery.....	28	27	22	45	25
Theft and receiving stolen goods.....	2,227	2,373	2,553	2,379	2,400
Embezzlement, false pretences and fraud.....	17	21	10	16	15
Arson.....	16	49	28	36	34
Wilful damage to property.....	536	618	646	597	736
Forgery and offences against currency.....	15	16	20	25	19
Incorrigibility and vagrancy.....	515	660	484	403	529
Immorality.....	97	126	111	110	139
Various other offences.....	1,254	1,067	1,062	874	920
Totals.....	6,198	6,418	6,644	6,068	6,377



Sex and Age.—Juvenile delinquents are predominantly boys. The proportion for all offences in 1953 was approximately one girl to eight boys, a ratio which has remained much the same over a long period. Juveniles of 13 to 15 years of age comprised the majority of delinquents in 1953, 69·6 p.c. in the case of boys and 86·0 p.c. in the case of girls. However, 272 boys and 10 girls (4·4 p.c. of the children) were under 10 years of age.

27.—Percentages of Delinquent Boys and Girls by Age Group 1952 and 1953

NOTE.—See headnote to Table 22, p. 331.

Age Group	1952			1953		
	Boys	Girls	Both Sexes	Boys	Girls	Both Sexes
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
7 - 12 years.....	29.7	14.0	28.0	29.7	13.3	27.9
13 - 15 years.....	68.9	85.1	70.7	69.6	86.0	71.4
Not given.....	1.4	0.9	1.3	0.7	0.7	0.7
Totals.....	100.0	100.0	100.0	100.0	100.0	100.0

Education and Employment.—Many causes contribute to backwardness in school work. The retarding influence may be illness, over-crowding in the home, disturbed family situations or dull mentality. Presuming that six years is the usual age for entering Grade I, 43.4 p.c. of the boys and 52.0 p.c. of the girls in 1953 were reported to be two or more years below the normal grade for their age and 3.9 p.c. of the boys and girls were a year or more above it.

Well over half of the boys had attained Grade VII and more than half of the girls Grade VIII at the time of delinquency. The majority of boys who had left school had reached Grades VI to VIII and the girls, Grades VII to IX. Some high school education had been achieved by 17.7 p.c. of the boys and girls.

28.—Age, Sex and School Grade of Delinquent Boys and Girls 1953

(B=Boys; G=Girls)

Age	School Grades																Total Delin- quents		
	Elementary										Second- ary		Auxili- ary		Not Given				
	I-IV		V		VI		VII		VIII										
	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G			
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.			
7 years.....	17	1	—	—	—	—	—	—	—	—	—	—	—	—	—	17	1		
8 ".....	68	6	1	—	—	—	—	—	—	—	—	—	—	—	1	67	6		
9 ".....	154	3	13	—	—	—	—	1	—	—	—	—	5	—	11	—	184	3	
10 ".....	224	3	74	3	19	—	—	1	—	3	—	1	—	—	15	1	338	8	
11 ".....	159	9	116	5	97	8	18	—	—	5	—	2	—	6	—	18	—	421	22
12 ".....	96	7	153	4	195	17	131	10	33	5	7	1	9	—	35	3	659	51	
13 ".....	79	12	123	4	198	20	243	35	151	24	56	10	23	6	47	2	920	113	
14 ".....	64	10	90	10	179	17	256	44	337	55	257	52	40	4	84	11	1,307	203	
15 ".....	45	14	91	11	162	18	258	38	387	62	631	113	33	6	129	11	1,736	273	
Not given.....	2	—	1	—	1	—	1	—	1	—	1	—	—	—	32	5	39	5	
Totals.....	908	65	662	41	852	80	909	128	917	146	955	176	117	16	372	33	5,692	685	

In 1953, 9.2 p.c. of the delinquent boys and 16.1 p.c. of the delinquent girls were not attending school. At the time of leaving school their ages ranged from 11 to 15 years, the majority being between 14 and 15 years. Nearly 24 p.c. of the delinquent boys, having left school, were unemployed. The largest group of wage earners (70) were recorded as day labourers. The next largest group (63) were in occupations concerned with transportation, such as messengers, helpers on milk delivery routes, truck drivers' assistants, etc. More than a third of the girls were idle after leaving school. Factory work, domestic and personal service were the main occupations of those who were employed.

Birthplaces of Juvenile Delinquents and their Parents.—Canada was the country of birth of 96.2 p.c. of the juvenile delinquents in 1953 (the place of birth was not recorded in 1.1 p.c. of the cases). One hundred and seventy-four (2.7 p.c.) were born in the British Isles, Europe, the United States, China and Latin American countries. Ontario was the province of residence of 62.1 p.c. of those born outside Canada.

Both parents of 72.4 p.c. of the delinquent children in 1953 were born in Canada and another 13.4 p.c. had one parent born in this country. To evaluate these figures comparison should be made of population ratio of children from 7-15 years of age whose parents were Canadian-born with those whose parents were born elsewhere.

Home Circumstances.—The type of home in which he lives and the amount and quality of supervision he receives are important factors in a child's behaviour. The statistics of the marital status of the parents and the place and type of residence of the child reflect home conditions and are worth recording as possible reasons for social or emotional maladjustment. The parents of 74.2 p.c. of the delinquent children were reported to be living together in 1953 but homes broken by separated parents, divorce or death was the background of 20.8 p.c. of the delinquent boys and girls. The mothers of 10.1 p.c. of the juvenile delinquents were employed other than in the home and the mothers of another 3.4 p.c. were dead. The fathers of 7.4 p.c. of the cases were deceased. For every four juveniles who appeared in court, three resided in an urban centre and one in a rural district. Of these boys and girls, 87.9 p.c. were living in their own homes at the time they got into difficulties; 5.3 p.c. of them were in foster homes, either with a relative or some other person, and institutions were the homes of 1.4 p.c. of them.

Sources of Complaint.—The police were the complainants in the majority of juvenile cases, 80.2 p.c. of the boys having been charged by them. Probation officers and parents were responsible for 2.6 p.c. and 2.5 p.c. respectively, of those charged. School authorities referred 2.1 p.c. of the boys to the courts and social agencies another 0.7 p.c.

The proportion (51.8 p.c.) of girls charged by the police was considerably less than the proportion of boys. Parents made more use of the courts for girls than for boys (17.6 p.c.). School authorities laid complaints in 6.3 p.c., probation officers in 6.8 p.c. and social agencies in 6.3 p.c. of the girls' cases.

Repeaters.—In 1953 approximately one in every five children brought before the courts failed to heed the first warning and made at least a second appearance. In that year 81.1 p.c. of the delinquent children appeared before the courts for the first time, 11.8 p.c. were second offenders, 3.6 p.c. third, and 3.5 p.c. were dealt with by the courts four or more times.

29.—First Offenders and Repeaters of Major Offences 1944-53

NOTE.—See headnote to Table 22, p. 331.

Year	Total Delinquents	First Offenders	Repeaters					Percentage of Total Delinquents
			Second	Third	Fourth	Fifth or More	Total	
	No.	No.	No.	No.	No.	No.	No.	
1944.....	6,529	4,665	943	429	221	271	1,864	28.6
1945.....	5,758	4,231	812	337	137	241	1,527	26.5
1946.....	4,949	3,430	799	344	155	221	1,519	30.7
1947.....	4,683	3,376	673	329	138	167	1,307	27.9
1948.....	4,591	3,340	674	266	147	164	1,251	27.3
1949 ¹	6,198	5,195	603	208	109	83	1,003	16.2
1950 ¹	6,418	5,039	892	314	140	33	1,379	21.5
1951 ¹	6,644	5,141	909	324	132	138	1,503	22.6
1952 ¹	6,068	4,412	963	367	155	171	1,656	27.3
1953 ¹	6,377	5,170	752	230	124	101	1,207	18.9

¹ Includes minor offences.

Disposition of Cases.—In 1953 not quite one-half of the children's cases (48·3 p.c.) were heard within four days of the charge and slightly over two-thirds (68·5 p.c.) within nine days. However 9·9 p.c. of them had to wait at least two weeks and 6·7 p.c. waited a month or more before the first hearing. These waiting periods may be explained in various ways.

Some county courts sit only twice or even once a month. Hearings may be deferred because of sickness in the family, school examinations, stormy weather or long distances. The chief cause for delay however is the time it takes to investigate the facts properly. The probation officer, and frequently there is only one to a court, has to find out what occurred at the time of the delinquency; he must get in contact with the parents and the school, learn something of the home situation, perhaps arrange medical or psychiatric examinations and explore community resources. The disadvantage of a long waiting period is outweighed by the assistance the court receives in deciding the form of treatment best suited to the child's needs and the type of care that will be the most economical for the community. For these intervening days or weeks most children are left in their own homes while a minority are placed in detention homes and, in the long run, whether the effect of the waiting period is good or bad is determined by the care given the youngster during that time.

Juvenile court judges heard 91·4 p.c. and magistrates 8·2 p.c. of the juvenile cases before the courts. The balance were heard by justices of the peace. The proportion of those declared delinquent (93·6 p.c.) in the magistrate's courts was greater than in the juvenile courts (80·4 p.c.). In the former court 6·1 p.c. of the cases were dismissed while in the juvenile courts only 2·4 p.c. were dismissed but 17·2 p.c. were adjourned *sine die*.

Some courts consider children whose hearings are adjourned *sine die* as delinquent while others do not but, for the sake of uniformity in this report, the latter point of view is maintained by the Dominion Bureau of Statistics. In assessing the total problem of juvenile delinquency however cases adjourned *sine die* have to be taken into account for, when the proportion of cases dealt with in this way increases, the proportion of those declared delinquent declines.

30.—Juveniles before the Courts, Dismissed and Delinquent 1949-53

NOTE.—See headnote to Table 22, p. 331.

Item	1949		1950		1951		1952		1953	
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
Before the courts.....	7,038	100·0	7,304	100·0	7,521	100·0	7,213	100·0	7,829	100·0
Dismissed.....	166	2·4	197	2·7	195	2·6	178	2·5	216	2·8
Adjourned <i>sine die</i>	674	9·6	689	9·4	682	9·1	967	13·4	1,236	15·8
Delinquent.....	6,198	88·0	6,418	87·9	6,644	88·3	6,068	84·1	6,377	81·4

Sentences for delinquent boys usually differ somewhat from those for girls. In 1953 the proportion of boys put on probation was 43·6 p.c. and of girls 47·3 p.c. Fines or restitution were meted out to 19·5 p.c. of the boys but to only 5·4 p.c. of the girls. This is because damage to property, for which restitution seems a reasonable adjustment, is committed relatively more often by boys than by girls. A much larger proportion of girls (36·9 p.c.) than boys (15·0 p.c.) were sent to training schools. Final disposition of case was postponed for 7·0 p.c. of the girls and 17·8 p.c. of the boys were given suspended sentences.

31.—Disposition of Delinquents by Type of Sentence 1944-53

NOTE.—See headnote to Table 22, p. 331.

Year	Reprimanded		Probation of Court		Protection of Parents		Fined or Made Restitution		Detained Indefinitely		Sent to Training School		Final Disposition Suspended		Corporal Punishment	
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
1944	395	4.0	2,780	28.0	112	1.1	2,547	25.7	92	1.0	1,376	13.9	2,551	25.7	64	0.6
1945	352	3.9	2,698	30.3	109	1.2	2,367	26.6	65	0.7	1,348	15.1	1,947	21.9	23	0.3
1946	233	3.0	2,291	29.2	67	0.8	1,854	23.6	53	0.7	1,180	15.0	2,150	27.4	28	0.3
1947	182	2.4	2,273	30.1	69	0.9	2,116	28.1	40	0.5	1,108	14.7	1,733	23.0	24	0.3
1948	248	3.4	2,201	30.8	55	0.8	1,850	25.8	47	0.7	1,120	15.6	1,622	22.7	12	0.2
1949	196	3.2	2,141	34.5	98	1.6	1,655	26.7	39	0.6	1,036	16.7	1,029	16.6	4	0.1
1950	354	5.5	2,392	37.3	94	1.4	1,148	17.9	26	0.4	1,144	17.8	1,257	19.6	3	0.1
1951	309	4.6	2,313	34.8	154	2.3	1,433	21.6	45	0.7	1,141	17.2	1,247	18.7	2	0.1
1952	243	4.0	2,412	39.8	148	2.4	1,015	16.7	1	--	1,152	19.0	1,095	18.1	2	--
1953	227	3.6	2,620	41.1	186	2.9	1,147	18.0	28	0.4	1,107	17.4	1,062	16.6	—	—

Section 4.—Police Forces

The Police Forces operating in Canada are organized under three groups: (1) the Federal Force, which is the Royal Canadian Mounted Police whose operations cover a very wide field in addition to purely police work; (2) Provincial Police Forces—the Provinces of Ontario and Quebec have organized their own Provincial Forces, but the other provinces engage the services of the Royal Canadian Mounted Police to perform parallel functions within their boundaries; (3) Municipal Police—every city of reasonable size has its own police organization which is paid for by the local taxpayers and which attends to police matters within the borders of the municipality concerned.

Subsection 1.—The Royal Canadian Mounted Police*

The Royal Canadian Mounted Police is a Civil Force maintained by the Federal Government. Organized in 1873 as the North West Mounted Police, its duties were confined to what was then known as the North West Territories. By 1904 the work of the Force received signal recognition when the prefix "Royal" was bestowed upon it by King Edward VII. In 1905 when Alberta and Saskatchewan were constituted Provinces an arrangement was made whereby the Force continued to discharge its duties as formerly, each Province making a contribution towards defraying the cost. This arrangement was continued until 1917.

In 1918 the Royal North West Mounted Police was assigned the duty of enforcing Dominion legislation for the whole of Canada west of Port Arthur and Fort William. Soon after the end of World War I an extension of governmental activities made it obvious that the enforcement of Dominion statutes throughout Canada must be the responsibility of a Dominion Force and therefore the jurisdiction of the Royal North West Mounted Police was extended to the whole of Canada early in 1920. In that year the name of the Force was changed to the Royal Canadian Mounted Police and the former Dominion Police with Headquarters at Ottawa, whose duties were largely connected with guarding public buildings in that city and Canadian Government dockyards at Halifax, N.S., and Esquimalt, B.C., was absorbed by the Royal Canadian Mounted Police.

Organization.—The Force is controlled and administered by a Minister of the Crown (the Minister of Justice). Its Commissioner has the rank and status of a Deputy Minister. Officers are commissioned by the Crown and are selected from serving non-commissioned officers. The Force is divided into 17 Divisions, including the Marine Division with Headquarters at Ottawa, Ont. There are 613 detachments distributed over the entire country. Its land force transportation consists of 1,359 motor vehicles, most of

* Revised by Commissioner L. H. Nicholson, M.B.E., Royal Canadian Mounted Police, Ottawa.

which are fitted with two-way radio sets connecting with wireless stations operated by the Force. Such stations operate in both Western and Eastern Canada, including the Quebec-United States boundary area. The "Air" Division of the Force operates ten aircraft of various types. The strength of the Force is 4,499 officers and men, with a reserve strength of 299. The reserve strength is located chiefly in the larger cities where men can be congregated easily and where instruction can be given in the evenings.

The Marine Division has a strength of 222 officers and men and operates 26 ships of various kinds, the majority of which are located on the Atlantic and Pacific Coasts and on the Great Lakes.

The Personnel Branch of the RCMP has officers in each Division across the country. Great care is taken in the selection of recruits.

Duties.—The Royal Canadian Mounted Police is responsible for enforcing federal laws throughout Canada and is specially empowered to deal with infractions against smuggling by sea, land and air. It also enforces the provisions of the Excise Act and is responsible for the suppression of traffic in narcotic drugs. In all, the Force has responsibility in over 50 Federal Government Acts including the Indian Act. It also assists many departments of the Federal Government in administrative duties and is responsible for the protection of government buildings and property. It is the sole police force operating in the Yukon and Northwest Territories. Furthermore it undertakes secret and security services for the Federal Government. In addition to its federal duties agreements have been made with the Provinces of Alberta, Saskatchewan, Manitoba, Nova Scotia, New Brunswick, Prince Edward Island, Newfoundland and British Columbia whereby the services of the Royal Canadian Mounted Police can be secured to enforce provincial laws and the Criminal Code in rural districts upon payment for such services. The agreement with Saskatchewan has been in existence for 26 years and those with the Provinces of Alberta, Manitoba, New Brunswick, Nova Scotia and Prince Edward Island for 22 years. The agreements were entered into with the Provinces of Newfoundland and British Columbia in August 1950 and the police forces of those Provinces were absorbed by the Royal Canadian Mounted Police. The Force has agreements also for policing more than 124 district municipalities, cities and towns.

Other Services.—The services of RCMP experts in fingerprints, crime-index information, examination of firearms and questioned documents are available to all other police forces in Canada. A *Police Gazette*, issued monthly and containing instructional articles on police work as well as the latest information on wanted or missing persons, is sent to all police forces across the country. The RCMP has two Police Colleges that are open to selected personnel from other police forces in Canada and to a more limited number of those outside its boundaries.

In recent years the Force has given special attention to crime prevention as well as detection and has done much to assist young people in those provinces where the Force acts as the provincial police in developing a healthy outlook towards the police, law, order and responsible citizenship.

A book entitled *Law and Order in Canadian Democracy*, containing twenty essays, has been issued by the Force and is available through the Queen's Printer, Ottawa.

Subsection 2.—Provincial Police Forces*

Quebec Provincial Police Force.—This Force is responsible for upholding law and order over the whole territory of the Province from the provincial boundary between Ontario and Quebec to the Magdalen Islands in the Gulf of St. Lawrence. The Force is composed of about 900 men in charge of a Director, who acts under direct orders from and is responsible to the Attorney-General of the Province.

* Revised by Geo. A. Shea, O.B.E., Secretary-Treasurer, Chief Constables' Association of Canada, Montreal, Que.

To facilitate operations the territory is divided into two almost equal parts designated as the District of Montreal and the District of Quebec. The Director has his office at Montreal and an Assistant Director is situated at the city of Quebec. Working under these Directors are two Deputies and an Inspector General. In each District the Police Force is divided into three sections: the detective corps, the constabulary and the traffic officers; each section is in charge of a captain supported by a number of lieutenants and sergeants.

A province-wide frequency modulation radio-communication system has been established at Montreal. A main station operating on the top of Mount Royal directs radio equipped cars within a radius of between 60 and 80 miles around Montreal; similar stations operating from the cities of Quebec and Three Rivers direct the mobile units operating in their respective areas. Substations operate at each of the eight bridges giving access to or exit from the city of Montreal and a number of cars, all equipped with frequency modulation three-way radio units, patrol the surrounding country day and night.

Ontario Provincial Police.—Maintained by the Ontario Government under the Attorney-General's Department, the Force is responsible for law enforcement in the rural and unorganized parts of the Province and in certain municipalities by contract.

The development of the Force from its beginning in the early years of Confederation to the passing of the Police Act in 1946 is outlined in the 1950 Year Book, pp. 332-333.

The Force, with a strength of approximately 1,416 in 1954, consists of a General Headquarters at Toronto and 16 Districts with headquarters respectively at Chatham, London, Dundas, Niagara Falls, Newmarket, Mount Forest, Barrie, Peterborough, Belleville, Perth, Cornwall, North Bay, Sudbury, Timmins, Port Arthur and Kenora. Each District has detachments adequate to meet law enforcement requirements. A Criminal Investigation Branch under the command of a Chief Inspector is maintained at Toronto to handle crimes of a major nature.

The installation of one of the largest police frequency-modulation radio systems in the world has placed at the command of the police a most efficient method of combatting every type of lawlessness. There are in operation 59 fixed stations, together with 448 two-way radio cruisers and four cabin cruisers, one each on Lake Temagami, Lake Simcoe, Lake Nipissing and Georgian Bay. The 250 watt station at each District Headquarters is open 24 hours daily and many of the cars are on continuous round-the-clock patrol.

Up to December 1954, 83 municipalities had availed themselves of the provisions of the Police Act for the policing of their municipalities by the Ontario Provincial Police.

Subsection 3.—Municipal Police Statistics

Police statistics were submitted for the year 1953 by Chiefs of Police in 245 urban centres, 16 district communities, 16 townships and one unorganized district, all of 4,000 population or over. The ratio of police per 1,000 population in urban centres of 4,000 population or over was as follows:—

<i>Province</i>	<i>Police per 1,000 Population</i>	<i>Province</i>	<i>Police per 1,000 Population</i>
Newfoundland.....	2.1	Manitoba.....	1.4
Prince Edward Island.....	1.1	Saskatchewan.....	1.1
Nova Scotia.....	1.1	Alberta.....	1.3
New Brunswick.....	1.5	British Columbia.....	1.4
Quebec.....	1.6		
Ontario.....	1.4	CANADA.....	1.5

Summary police statistics are shown separately for urban centres of 10,000 population or over in each province in Table 32, with totals for centres of from 4,000 to 10,000 population. The figures in the column "Offences Known to the Police" include offences and attempted offences which became known to the police, having been reported by any person (including a police officer). Complaints about offences or attempts which, upon investigation, prove to be groundless are not included. Offences known to the police provide the basic data for estimating the prevailing volume and trends of criminality.

32.—Summary Police Statistics by Incorporated Centres of 10,000 Population or Over and Totals for Incorporated Centres of 4,000-10,000 Population 1953

Province and Urban Centre	Population 1951	Police on Force	Offences Known to the Police	Prosecutions	Arrests	Summons
	No.	No.	No.	No.	No.	No.
Newfoundland						
Totals, 10,000 Population or Over	52,873	145	2,156	10,952	1,421	735
St. John's.....	52,873	145	2,156	10,952	1,421	735
Totals, 4,000-10,000 Population	13,291	20	2,102	1,801	390	526
Prince Edward Island						
Totals, 10,000 Population or Over	15,887	16	1,084	976	756	247
Charlottetown.....	15,887	16	1,084	976	756	247
Totals, 4,000-10,000 Population	6,547	8	771	688	383	164
Nova Scotia						
Totals, 10,000 Population or Over	178,708	231	12,273	21,435	7,441	2,647
Dartmouth.....	15,037	15	1,385	1,080	553	704
Glace Bay.....	25,586	22	1,264	1,197	812	415
Halifax.....	85,589	138	6,392	13,823	3,645	1,098
New Waterford.....	10,423	9	591	151	—	—
Sydney.....	31,317	39	2,090	4,533	2,000	55
Truro.....	10,756	8	551	651	431	375
Totals, 4,000-10,000 Population	69,186	42	4,150	4,457	2,413	1,007
New Brunswick						
Totals, 10,000 Population or Over	104,884	150	12,228	15,069	4,980	13,888
Edmundston.....	10,753	12	222	206	150	69
Fredericton.....	16,018	30	1,275	473	941	25
Moncton.....	27,334	48	3,528	2,357	1,221	393
Saint John.....	50,779	90	7,203	12,033	2,668	13,401
Totals, 4,000-10,000 Population	30,613	29	3,014	3,078	2,190	1,281
Quebec						
Totals, 10,000 Population or Over	1,937,502	3,365	447,556	418,576	39,609	294,838
Arvida.....	11,078	19	614	528	164	164
Cap de la Madeleine.....	18,667	24	1,120	765	683	29
Chicoutimi.....	23,111	24	291	1,244	903	262
Drummondville.....	14,341	17	993	400	299	686
Granby.....	21,989	21	319	298	134	274
Grand Mère.....	11,089	¹	¹	¹	¹	¹
Hull.....	43,483	46	10,168	9,059	1,442	7,513
Jacques-Cartier.....	22,450	16	3,100	3,100	175	800
Joliette.....	16,064	24	247	258	152	150
Jonquière.....	21,618	22	716	1,609	346	140
Lachine.....	27,773	25	650	1,814	287	201
Lasalle.....	17,633	18	300	274	115	87
Lévis.....	13,162	18	247	924	184	22
Longueuil.....	13,103	14	1,213	829	81	79
Magog.....	12,423	11	636	597	81	589
Montreal.....	1,021,520	2,156	333,018	294,303	22,799	257,892
Montreal North.....	14,081	23	2,977	2,790	2,131	1,816
Mount Royal.....	11,352	26	4,706	4,556	4	4,552
Outremont.....	30,057	44	9,525	9,546	239	3,691
Quebec.....	164,016	288	24,645	39,765	3,100	—
Rimouski.....	11,565	7	433	432	72	17
Rouyn.....	14,633	13	661	5,086	421	51
St. Hyacinthe.....	20,236	26	357	540	—	62
St. Jean.....	19,305	20	85	23	13	18
St. Jérôme (Terrebonne County).....	17,685	17	608	266	483	106
St. Laurent.....	20,426	30	5,109	5,014	66	34
St. Michel (Montreal Island).....	10,539	20	2,698	2,676	32	32
Shawinigan Falls.....	26,903	39	427	1,579	112	268
Sherbrooke.....	50,543	71	6,085	5,599	684	2,117
Sillery.....	10,376	8	797	61	4	—
Sorel.....	14,961	19	565	534	45	45

¹ Not reported.

32.—Summary Police Statistics by Incorporated Centres of 10,000 Population or Over and Totals for Incorporated Centres of 4,000-10,000 Population 1953—continued

Province and Urban Centre	Population 1951	Police on Force	Offences Known to the Police	Prosecutions	Arrests	Summonses
	No.	No.	No.	No.	No.	No.
Quebec—concluded						
Thetford Mines.....	15,095	20	2,540	2,436	252	112
Three Rivers.....	46,074	84	7,130	6,423	1,609	4,590
Valleyfield (Salaberry-de).....	22,414	32	787	739	25	126
Verdun.....	77,391	68	8,868	5,649	1,387	2,800
Victoriaville.....	13,124	13	2,490	2,438	72	97
Westmount.....	25,222	42	12,431	6,422	1,013	5,416
Totals, 4,000-10,000 Population	319,334	298	19,526	27,621	4,583	4,567
Ontario						
Totals, 10,000 Population or Over	2,106,708	3,277	1,002,606	1,041,736	71,181	831,347
Barrie.....	12,514	12	2,375	766	398	383
Belleville.....	19,519	24	2,941	2,380	694	1,222
Brantford.....	36,727	41	3,248	2,489	571	266
Brockville.....	12,301	16	6,378	4,652	572	4,044
Chatham.....	21,218	34	2,581	2,196	485	1,691
Cornwall.....	16,899	20	1,479	1,197	384	775
Eastview.....	13,799	10	1,694	997	80	917
Forest Hill.....	15,305	31	669	3,978	85	4
Fort William.....	34,947	44	3,113	6,378	1,014	1,478
Galt.....	19,207	17	1,498	1,023	356	667
Guelph.....	27,386	33	5,272	6,941	556	4,954
Hamilton.....	208,321	357	127,714	123,730	6,106	45,378
Kingston.....	33,459	52	27,722	19,126	1,433	25,249
Kitchener.....	44,867	57	6,491	9,639	845	9,500
Leaside.....	16,233	18	9,187	9,024	56	8,846
London.....	95,343	134	68,269	65,528	2,098	63,425
Mimico.....	11,342	10	2,014	1,888	68	1,922
New Toronto.....	11,194	15	2,034	2,007	269	1,783
Niagara Falls.....	22,874	40	3,796	3,594	1,023	2,546
North Bay.....	17,944	20	3,325	2,746	1,183	1,554
Orillia.....	12,110	8	1,011	867	214	897
Oshawa.....	41,545	43	969	17,007	1,066	14,931
Ottawa.....	202,045	271	28,607	27,689	3,415	26,806
Owen Sound.....	16,423	17	1,824	1,940	440	435
Pembroke.....	12,704	11	1,301	2,529	615	316
Peterborough.....	38,272	44	5,955	5,569	789	4,168
Port Arthur.....	31,161	46	6,545	13,393	3,446	2,189
St. Catharines.....	37,984	51	13,018	11,423	1,138	2,727
St. Thomas.....	18,173	21	2,162	1,897	272	1,018
Sarnia.....	34,697	47	9,373	9,556	1,129	7,517
Sault Ste. Marie.....	32,452	39	4,012	7,462	1,292	1,802
Stratford.....	18,785	20	2,251	2,099	244	1,168
Sudbury.....	42,410	58	15,301	13,833	2,796	11,053
Timmins.....	27,743	26	6,579	5,780	954	1,048
Toronto.....	675,754	1,304	583,800	581,875	29,919	553,774
Trenton.....	10,085	13	1,762	1,597	333	1,290
Waterloo.....	11,991	12	2,840	2,728	143	2,608
Welland.....	15,382	22	3,736	3,544	367	2,724
Windsor.....	120,049	220	27,234	55,431	3,811	16,293
Woodstock.....	15,544	19	2,526	5,238	522	1,979
Totals, 4,000-10,000 Population	275,918	283	31,750	36,651	5,341	17,389
Manitoba						
Totals, 10,000 Population or Over	282,650	403	65,874	122,634	6,326	116,859
Brandon.....	20,598	19	1,140	715	251	464
St. Boniface.....	26,342	21	4,417	3,932	352	3,262
Winnipeg.....	235,710	363	60,317	117,987	5,723	112,869
Totals, 4,000-10,000 Population	37,387	37	2,318	5,832	911	1,488
Saskatchewan						
Totals, 10,000 Population or Over	166,091	190	18,525	29,544	4,589	6,291
Moose Jaw.....	24,355	29	5,858	4,673	645	1,141
Prince Albert.....	17,149	18	1,450	2,013	532	548
Regina.....	71,319	87	6,474	19,527	2,006	2,645
Saskatoon.....	53,268	56	4,743	3,331	1,406	1,957
Totals, 4,000-10,000 Population	33,611	35	4,945	7,869	905	2,559

32.—Summary Police Statistics by Incorporated Centres of 10,000 Population or Over and Totals for Incorporated Centres of 4,000-10,000 Population 1953—concluded

Province and Urban Centre	Population 1951	Police on Force	Offences Known to the Police	Prosecutions	Arrests	Summonses
	No.	No.	No.	No.	No.	No.
Alberta						
Totals, 10,000 Population or Over	328,002	429	49,688	39,293	13,424	20,172
Calgary	129,060	180	14,193	11,780	4,949	3,176
Edmonton	159,631	199	28,037	18,577	7,504	11,073
Lethbridge	22,947	28	4,858	5,546	547	5,224
Medicine Hat	16,364	22	2,600	3,390	424	699
Totals, 4,000-10,000 Population	20,845	24	6,970	7,351	656	1,799
British Columbia						
Totals, 10,000 Population or Over	462,468	811	67,491	127,339	18,494	29,065
New Westminster	28,639	43	10,450	7,210	892	536
North Vancouver	15,687	14	1,141	956	217	956
Penticton	10,548	10	1,655	1,400	259	1,246
Trail	11,430	12	4,073	3,762	165	3,920
Vancouver	344,833	638	29,723	94,726	15,851	4,165
Victoria	51,331	94	20,449	19,285	1,110	18,262
Totals, 4,000-10,000 Population	75,700	100	14,672	13,147	6,552	4,271
Grand Totals, Incorporated Centres of 10,000 Population or Over	5,635,773	9,047	1,679,481	1,827,554	168,221	1,316,109
Grand Totals, Incorporated Centres of 4,000-10,000 Population	882,432	876	89,318	108,495	24,624	35,051

Section 5.—Penal Institutions and Training Schools

Penal institutions may be classified under three headings: (1) penitentiaries, where prisoners have long sentences and the turnover is slow; (2) reformatories, where the turnover is also rather slow; and (3) common gaols, where the turnover is extremely rapid.

If the average of the figures for inmates at the beginning and at the end of the year be considered the average population for the year, and the number of discharged as the turnover, the turnover in the years 1952 and 1953 was: in penitentiaries, 49 and 60 p.c.; in reformatories, 305 and 330 p.c.; and in gaols, no less than 1,589 and 1,647 p.c. respectively.

In considering these figures it should be borne in mind that the common gaol population changes from day to day and is made up partly of accused persons awaiting trial who may be either liberated or sent to a penitentiary or reformatory.

33.—Movement of Population in Penitentiaries, Reformatories and Gaols 1950-53

Type of Institution and Item	1950	1951	1952 ¹	1953
	No.	No.	No.	No.
Penitentiaries—				
Inmates in custody at beginning of year	4,260	4,740	4,817	4,686
Admitted during the year	2,445	2,334	2,181	3,119
Discharged during the year	1,965	2,257	2,312	2,871
In custody at end of year	4,740	4,817	4,686	4,934
Reformatories for Men—				
Inmates in custody at beginning of year	2,556	2,728	2,622	2,828
Admitted during the year	7,937	7,794	8,613	9,331
Discharged during the year	7,765	7,953	8,407	9,341
In custody at end of year	2,728	2,569	2,828	2,818

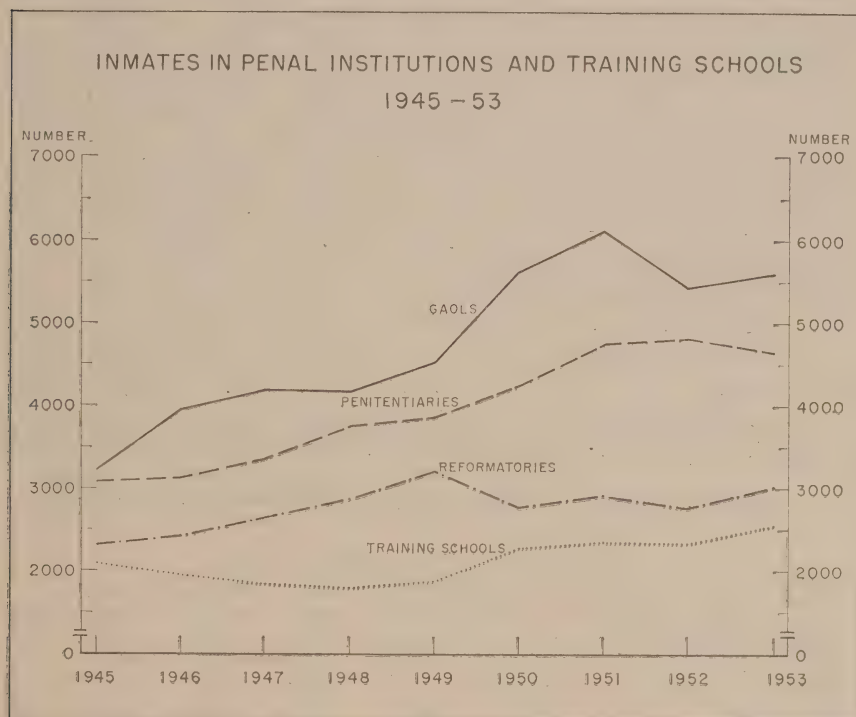
For footnote, see end of table.

33.—Movement of Population in Penitentiaries, Reformatories and Gaols 1950-53 —concluded

Type of Institution and Item	1950	1951 ¹	1952 ²	1953
	No.	No.	No.	No.
Reformatories for Women—				
Inmates in custody at beginning of year.....	230	197	160	178
Admitted during the year.....	387	379	451	513
Discharged during the year.....	400	416	433	531
In custody at end of year.....	197	160	178	160
Common Gaols—				
Inmates in custody at beginning of year.....	5,625	6,102	5,445	5,599
Admitted during the year.....	85,062	88,555	87,917	93,890
Discharged during the year.....	84,697	89,235	87,763	93,710
In custody at end of year.....	5,990	5,422	5,599	5,779
Totals—				
Inmates in custody at beginning of year.....	12,671	13,767	13,044	13,291
Admitted during the year.....	95,811	99,062	99,162	106,853
Discharged during the year.....	94,827	99,861	98,915	106,453
In custody at end of year.....	13,655	12,968	13,291	13,691

¹ Newfoundland included from 1951.

² In 1952 the Bowden Institution, Innisfail, Alta. and Young Offenders' Unit, South Burnaby, B.C. reported for the first time.



Subsection 1.—Penitentiaries

The Penitentiaries Branch of the Department of Justice is charged with the administration of the various penitentiaries of Canada. Eight institutions are included in the system, the two largest being at Kingston, Ont. and St. Vincent de Paul, Que. Others are

at Dorchester, N.B., Prince Albert, Sask., Stony Mountain, Man., New Westminster, B.C., Collin's Bay, Ont. and St. John's, Nfld.; the latter is operated under provincial authority and the figures for inmates of that institution serving sentences of two years or more are included for 1951-54 in Tables 34 and 35. A federal Training Centre was opened at St. Vincent de Paul in April 1952 for the treatment and training of offenders under 25 years of age. A Penitentiary Staff College was also set up at Kingston for the training of penitentiary officers through courses of instruction and training conferences. During the year ended Mar. 31, 1954 the average daily population of the penitentiaries was 4,722 and the total net cash outlay for maintenance for the year was \$7,623,691 or \$4.42 per inmate per day.

Females given penitentiary sentences in the various provinces are sent to the Prison for Women at Kingston, Ont. where special quarters and staff are maintained for their detention and supervision; inmates in custody on Mar. 31, 1954 numbered 95.

34.—Movement of Convicts in Penitentiaries, Years Ended Mar. 31, 1951-54

Item	1951	1952	1953	1954
	No.	No.	No.	No.
In Custody, Apr. 1.....	4,740	4,817	4,686¹	4,934
Received—				
From gaols.....	1,981	1,847	2,136	2,434
By transfer.....	338	323	970	827
By cancellation of ticket-of-leave.....	15	12	13	14
Totals, Received.....	2,334	2,182	3,119	3,275
Discharged by—				
Expiry of sentence.....	1,391	1,554	1,463	1,810
Transfer.....	339	322	972	826
Ticket-of-leave.....	459	373	384	384
Deportation.....	—	—	5	—
Death.....	5	24	11	21
Pardon.....	49	25	21	36
Release to military authorities.....	—	1	—	—
Release on order of court.....	7	13	15	12
Return to provincial authorities.....	1	—	—	—
Instructions from Immigration Department.....	—	—	—	—
Sentence quashed.....	6	—	—	—
Totals, Discharged.....	2,257	2,312	2,871	3,089
In Custody, Mar. 31.....	4,817	4,687	4,934	5,120

¹ This figure shows one inmate fewer than at Mar. 31, 1952. Sentence of one inmate was annulled by court order during year ended Mar. 31, 1952 but notification was not received by the penitentiary until the following fiscal year.

35.—Summary Statistics *re* Convicts in Penitentiaries as at Mar. 31, 1951-54

Item	1951	1952	1953	1954
	No.	No.	No.	No.
Place of Birth—				
Canada.....	4,358	4,272	4,554	4,712
British Isles and possessions.....	144	121	116	138
Austria and Hungary.....	22	20	14	14
Italy.....	9	9	9	9
Poland.....	34	33	38	29
USSR.....	64	53	30	24
Other Europe.....	65	63	66	84
United States.....	110	95	91	90
Other countries.....	11	21	16	20
Marital Status—				
Single.....	2,937	2,776	2,955	3,017
Married.....	1,560	1,575	1,607	1,592
Widowed.....	135	133	132	132
Divorced.....	108	84	132	131
Separated.....	77	119	108	248

35.—Summary Statistics re Convicts in Penitentiaries as at Mar. 31, 1951-54—concluded

Item	1951	1952	1953	1954
	No.	No.	No.	No.
Sex—				
Male.....	4,713	4,562	4,829	5,025
Female.....	104	125	105	95
Age—				
Under 21 years.....	520	485	564	639
21 to 29 ".....	2,209	2,091	2,151	2,192
30 to 39 ".....	1,176	1,245	1,293	1,364
40 to 49 ".....	575	543	572	597
50 to 59 ".....	227	212	239	213
Over 60 ".....	110	111	115	115
Not stated.....	—	—	—	—
Totals.....	4,817	4,687	4,934	5,120

The Ticket-of-Leave System.—The parole system in Canada is legalized under the Ticket-of-Leave Act (R.S.C. 1952, c. 264) administered by the Minister of Justice. It is described in detail in the 1948-49 Year Book, pp. 305-308.

Subsection 2.—Reformatories and Other Corrective Institutions

A census of reformatories and of training schools is taken at five year intervals, the latest being June 1, 1951. At that date there were 13 reformatory and corrective institutions, four of which were for women. Enumeration cards were completed for 2,551 men and 141 women on June 1, 1951. In these institutions for adults 29 p.c. of the inmates were under 21 years of age at the time of admission and almost 50 p.c. were between the ages of 21 and 39 years. The proportion of single men was 63 p.c. and three out of four of the men whose residence was known lived in urban centres. More than one-half of the women (53.2 p.c.) were single and the majority (91.0 p.c.) of those whose residence was known lived in urban centres. From five to eight years of elementary school education were recorded for about one-half of the male and female inmates. Only 6.7 p.c. of the men were unemployed at the time of admission. On the other hand 20.6 p.c. of the women were unemployed and another 34.0 p.c. had never worked.

The revenue for the support of the institutions for men was derived chiefly from provincial funds (56.0 p.c.) and from the sale by the institutions of farm and industrial products (41.3 p.c.). To support the institutions for women, income was received from provincial funds (31.0 p.c.), municipalities (1.8 p.c.), sale of products (53.4 p.c.), donations and bequests (4.6 p.c.) and other sources (9.2 p.c.).

Summary statistics of inmates, movement of population, terms of sentence and penal record of inmates are given in the 1954 Year Book, pp. 311-313.

Subsection 3.—Training Schools

Reports on movement of population are received yearly from training schools and figures compiled therefrom are shown in Table 36 for the years 1949 to 1953.

36.—Movement of Population in Training Schools, Years Ended Mar. 31, 1949-53

Item	1949	1950	1951	1952 ¹	1953
	No.	No.	No.	No.	No.
Training Schools for Boys—					
Pupils in residence at beginning of year.....	1,365	1,614	1,662	1,668	1,802
Admitted during the year.....	1,189	1,220	1,393	1,597	1,695
Discharged during the year.....	1,158	1,172	1,402	1,463	1,664
In residence at end of year.....	1,396	1,662	1,653	1,802	1,833

For footnote, see end of table.

36.—Movement of Population in Training Schools, Years Ended Mar. 31, 1949-53
—concluded

Item	1949	1950	1951	1952 ¹	1953
	No.	No.	No.	No.	No.
Training Schools for Girls—					
Pupils in residence at beginning of year.....	516	680	695	674	753
Admitted during the year.....	595	493	473	608	808
Discharged during the year.....	559	478	494	529	702
In residence at end of year.....	552	695	674	753	859
Totals—					
Pupils in residence at beginning of year.....	1,881	2,294	2,357	2,342	2,555
Admitted during the year.....	1,784	1,713	1,866	2,205	2,503
Discharged during the year.....	1,717	1,650	1,896	1,992	2,366
In residence at end of year.....	1,948	2,357	2,327	2,555	2,692

¹ In 1952 Boscoville Training School for Boys, Rivière-des-Prairies, Que. reported for the first time.

The period of the financial year varied among the training schools. The last complete financial year before June 1, 1951 showed that the province concerned supplied about three-quarters of the funds for the support of such schools (77·2 p.c. for boys' schools and 70·6 p.c. for girls' schools) and the municipalities a little more than a tenth (12·5 p.c. for boys' schools, 10·2 p.c. for girls' schools). Other financial resources included fees paid by parents, donations, bequests, sale of farm and industrial products and laundry work. Nine of the schools for boys were provincially administered, five were administered by religious orders and one by a board of directors; eight of the schools for girls were administered by religious orders and four were under provincial authority.

Statistics of training schools compiled from the Census of 1951 are summarized in the 1954 Year Book, pp. 314-316.

CHAPTER VIII.—EDUCATION AND RESEARCH

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

PART I.—FORMAL EDUCATION*

Section 1.—Education in the Provinces

Elementary and Secondary Schools.—Two-thirds of all Canadian children of ages 5 to 19 inclusive are enrolled in Canadian schools for at least some time during the school year. The percentage increases from 65 p.c. at ages 5 to 9, to 93 p.c. for ages 10 to 14 and drops to 40 p.c. for ages 15 to 19. About 5 p.c. of those aged 20 to 24 are still in school.† Children are enrolled in public and private schools from kindergarten to university or in vocational or professional training schools. A summary of the organization and administration of these schools is given in the following paragraphs.

Education was left in the hands of the provinces by the British North America Act and each province has developed a system to meet its needs. Two distinct types of organization are easily discernible: (1) the French tradition found in the Roman Catholic schools of Quebec, and (2) the English tradition found in the Protestant schools of Quebec and in all other provinces. The Federal Government is responsible for education among the Indians and Eskimos and of all children in the Territories and in establishments of the Armed Forces.

The English Tradition.—The system of education in each province is established by legislation and administered by a Department of the Provincial Government under a Minister of Education who is a member of the Cabinet and is responsible to the Legislature.

Each of the Atlantic Provinces has provided for a Council of Public Instruction or Board of Education, an advisory group composed of the Premier, Minister of Education, Deputy Minister or Superintendent and certain other appointees. The Council in Newfoundland is made up of the Minister, the Deputy Minister and the Superintendent of Education of each of the four leading religious denominations.

* Sections 1 and 3 of this Part were prepared in the Education Division, Dominion Bureau of Statistics.

† Based on the 1951 Census of Canada.

Each Department of Education concerns itself with the general administration of the public schools, the conduct of examinations, the certification of teachers, the registration of private and trade schools, public and travelling libraries, correspondence courses and also the direct management and control of teacher training schools and vocational institutes.

Direct control and operation of the public schools are in the hands of local boards of school trustees who operate under the School Law, and are usually elected for terms of two or three years. They employ the teachers and administer the revenues received from provincial grants, local taxation and minor sources. Elementary education is free but school boards in some provinces charge nominal fees for secondary education. In Newfoundland fees may take the place of local taxation.

Larger units of administration, usually formed from a number of single school board units, exist in all provinces except for the Roman Catholic schools of Quebec, although in most provinces the local boards within the units remain with limited powers. These units may be geographical areas intended to be large enough to provide a sufficient number of high school students for a composite or county high school. The one room school may be continued for the elementary grades but generally provision is made for transporting children to central schools; or where this is not practical dormitories may be provided.

1.—Active School Boards and Official Trustees by Province 1952

Province	Unit Boards	Local Boards within Units	Inde- pendent Local Boards	Total Boards	Official Trustees ¹
	No.	No.	No.	No.	No.
Newfoundland.....	—	—	293	293	—
Prince Edward Island.....	2	—	476	478	—
Nova Scotia.....	24	1,740	48	1,812	3
New Brunswick.....	36	1,020	75	1,131	—
Quebec—					
Roman Catholic.....	—	—	1,649	1,649	—
Protestant.....	10	96	181	297	—
Ontario.....	693	—	3,966	4,659	2
Manitoba.....	1	46	1,459	1,506	30
Saskatchewan.....	53	4,340	858	5,251	61
Alberta.....	56	3,809	106	3,971	12
British Columbia.....	77	—	11	88	10
Totals.....	952	11,051	9,132	21,135	116

¹ Usually the school inspector, delegated to act where a board cannot be obtained.

² Included with independent local boards.

The basic organization of the school system is an eight year, or eight grade, elementary school which the child enters at age six and a four or five year high school; for college or university the basis is a three or four year course during which the student earns a degree in arts and science. Among the modifications to be found in one or more provinces are the following: the addition, as the base, of a one or two year kindergarten, now found in many cities and some towns; the reorganization of the 8-4 (year or grade) plan for elementary and high schools to a 6-3-3, 3-3-3-3, or 3-3-4-3 organization by year or grade; the addition of an extra high school year in two provinces; the addition of a year in arts and science ending in an honours degree for students with sufficient ability to specialize; and the provision of graduate study in a variety of fields in a number of universities.

Other variations, some as old as the systems themselves, concern vocational education and professional training. After completing eight years of elementary education pupils may enter vocational or commercial high schools. Composite schools offering options in academic, technical, agriculture and home economics courses are on the increase. Provincial

departments have established a number of technical schools and institutes where pupils enter after completing part or all of their high school grades. Courses are given in a wide variety of fields which require from a few months to three years for completion.

At college level students may enter upon professional training in such fields as law, medicine, theology and engineering, in some direct from high school, in others after completing part or all of a course in arts and science.

Professional teacher training is provided in normal schools or teachers' colleges where high school graduates enter for one or two years to qualify as elementary school teachers. Until recently high school teachers were generally university graduates who had completed one year of professional training at a college of education within the university. In several provinces the normal schools have been closed and prospective teachers enrol in a university faculty of education where they take professional and academic courses towards a degree. They may teach at the end of one or more years and return at their convenience for summer or regular courses to complete work towards the degree. To obtain a high school teacher's certificate work towards the degree must be completed.

Separation of elementary and secondary education is incomplete in rural areas and small villages where the school may comprise from eight to twelve grades, whether taught by one teacher or more, and some high school pupils must depend chiefly on correspondence courses. In most rural schools only an academic course is given.

Emphasis at the elementary level is on language, arithmetic, health and social studies (geography, history and civics), with varying amounts of time given to music, art, crafts, home economics and shop work. At the secondary level the curriculum varies from a fairly rigid course to a course providing a core of required studies supplemented from a variety of optional subjects.

In addition to Quebec and Newfoundland where schools are established on a sectarian basis, three of the provinces have enacted legislation under which religious minorities may organize separate schools. Except in Quebec, both "public" and "separate" schools follow the same course of study in the teaching of all subjects but religion.

All provinces permit the establishment of private schools at any level. At the elementary and secondary levels these enrol only about 1 p.c. of the school population of Canada although the percentage is somewhat higher in some provinces. Private schools include academic schools, business colleges, art schools and a wide variety of trade schools including a few which provide correspondence courses.

The French Tradition.—The Quebec Department of Public Instruction is represented in the Cabinet by the Provincial Secretary. Although the Superintendent of Public Instruction is the head of the Department, a Roman Catholic Committee and a Protestant Committee, in charge respectively of the education of Roman Catholics and of Protestants and others, constitute the Council of Education which formulates policy and superintends the administration of all educational matters. The Council however has no authority over many special and technical schools that come directly under other government departments. The Protestant schools have developed in the English tradition already described; the Roman Catholic schools follow the French tradition.

There are about 50 infant schools enrolling more than 4,000 boys and girls of ages 3 to 5. From the very beginning boys are separated from girls. Both sexes follow through the primary grades I to VII. The girls may then enter a *collège classique* leading to the universities and professional schools or enter the commercial or domestic arts section of the complementary primary schools for two or three years respectively; or they may enter the general section where they are prepared for the household science section after two years, the normal schools or the nursing schools after four years, or special schools for social service, home economics for teachers, etc. after five years.

At the end of the sixth or seventh year a boy may enter a *collège classique* for an eight year course ending with a baccalaureate, which is prerequisite for entrance to a professional course in university—or he may instead continue to the end of the primary course and then

spend two years in the complementary course. From this point he may enter a technical school or any one of four sections of the two year superior course—commercial, scientific, general or industrial. The general or scientific may lead to entrance to a teacher training school, the others to specialized schools and advanced courses in technical schools or, after another year of preparatory work, to the higher schools of applied science, commerce and agriculture affiliated with the universities.

The boy who neither enters the *collège classique* nor goes on to the complementary course may go directly from the primary course to a trade school or to one of the regional agriculture schools. These schools offer two year terminal courses.

Universities and Colleges.—The two types of elementary and secondary school organization—those following the English and American patterns and those in the French tradition—also characterize university organization. In the English language universities high school graduation is required for admission, and an increasing number of universities require senior matriculation standing on entry. Others, including most junior colleges, accept junior matriculation standing but, when this is done, an additional year of study is required for the university degree.

Entrance requirements vary somewhat according to the degree sought. The number of years required to reach a first degree ranges from three to seven, the greater number being required for certain professional degrees such as those in law and medicine. In arts and science students may take a general course or, with permission of the faculty, enrol in an honour course which requires an additional year and allows for greater specialization. The curriculum is usually organized on a school year basis for day classes. However part or all of the requirements for a degree may be met through attendance at summer school, evening classes and extension courses. Standing is usually based on examinations in each subject each year although there may be a comprehensive examination before graduation.

Most of the universities offer advanced work in at least one or two fields; several of the larger universities are equipped to offer a master's degree or a doctorate in a number of academic fields. The master's degree usually requires at least one year beyond an honours degree, during which courses are taken and a thesis prepared. The doctorate is usually earned at the end of two or more additional years.

Two avenues lead to the French universities. The first is from the *collège classique*, which provides eight years beyond six years of elementary school and leads to the bachelor's degree. The course attempts to provide a broad general background from study of the classics, humanities, philosophy and the sciences. It may be selected as a basis for entrance to the study of medicine, law, dentistry or other profession, or lead to study for a *licence* (equivalent to a master's degree) or doctorate in the arts. For the *licence* the student must meet prescribed requirements of courses, research and a thesis. The doctorate takes at least two more years. Steps have recently been taken to co-ordinate the primary superior schools and classical colleges by making it possible for students to enter the regular course of the classical college at the end of the eleventh year of schooling.

The second avenue to university is open to students who successfully complete the twelfth year at a primary superior school and who meet certain conditions of scholarship. These students may enter the faculties of science, commerce or engineering.

Section 2.—Education in the Territories*

Northwest Territories.—Education in the Northwest Territories is carried on under authority of the Northwest Territories Act, the School Ordinance and the Regulations thereunder. Day schools are operated by the Northern Administration and Lands Branch

* Prepared in the Department of Northern Affairs and National Resources, Ottawa.

of the Department of Northern Affairs and National Resources at Fort Smith, Hay River, Fort Resolution and Fort Simpson, where the inhabitants are predominantly white or of mixed blood, and at Fort McPherson, Fort Norman, Arctic Red River and Fort Franklin, where the inhabitants are predominantly Indians. Day schools for the education of Eskimos are operated by that Branch at Aklavik, Tuktoyaktuk, Coppermine, Chesterfield Inlet, Cape Dorset and Coral Harbour in the Northwest Territories and at Fort Chimo and Port Harrison in the Province of Quebec.

The Roman Catholic Church operates residential schools at Aklavik, Fort Providence and Fort Resolution and mission day schools at Fort Simpson and Fort Smith; the Church of England operates a residential school at Aklavik. The mission authorities of these churches and other mission organizations also conduct schools for Eskimos at a number of points in the eastern, central and western Arctic and in northern Quebec. Eldorado Mining and Refining Limited at Port Radium and the Discovery Yellowknife Mine in the Mackenzie District also operate day schools.

The only organized school districts are the Yellowknife Public School District No. 1 and the Yellowknife Roman Catholic Separate School District No. 2. The Public School District, established in 1939, operates a modern eleven classroom elementary and high school which was opened in 1947. The Separate School District was established in 1951 and operates a four classroom school.

A Superintendent of Schools, with headquarters at Fort Smith, periodically inspects the schools of the Mackenzie District. These schools follow the program of studies for elementary and secondary schools authorized by the Alberta Department of Education. In remote areas elementary and high school students have access to correspondence course studies issued by the educational authorities of Alberta and the cost is borne by the Territorial Administration. An inspection of all school facilities for Eskimo children in the Canadian Arctic is made annually by an Education Officer from Ottawa.

A modified elementary school curriculum is followed by some of the federal schools for Eskimos by way of meeting the unique needs in the Arctic regions and a suitable curriculum for teaching Eskimo children in mission schools is being considered. Because of their nomadic way of life, Eskimos seldom remain long at the settlements and the periods available to the missions for teaching the children are comparatively short. The Eskimos of the eastern Arctic have long had a system of syllabic writing (expressed as geometric phonetic characters) which most of them can read and write proficiently. Syllabic writing has been used successfully to provide educational material in the Eskimo language on health matters, hygiene and native economics for the benefit of both children and adults. It is hoped that the establishment of schools in Eskimo territory will be influential in teaching the Eskimos to understand, speak and read simple English.

A program designed to improve education and welfare facilities generally has been initiated in the Northwest Territories. The program now includes regular distribution of educational films, special radio broadcasts to classrooms, the provision of additional equipment and supplies and increased attention to methods of instruction. Schools are usually staffed by a particular classification of welfare teachers who carry on welfare and community work in the settlements in addition to regular teaching duties.

In the field of vocational training a program suitable for the Northwest Territories is being worked out. The work of implementing the details of this program in the Mackenzie District is the responsibility of the Vocational Training Co-ordinator whose headquarters is at Fort Smith.

Yukon Territory.—Public schools in the Yukon Territory are operated by the Territorial Government at Dawson, Mayo, Whitehorse, Carcross, Teslin, Watson Lake, Haines Junction, Kluane Lake, Brook's Brook, Swift River and Elsa. The Whitehorse school has three kindergarten departments. Roman Catholic Mission authorities maintain a school at Whitehorse and one at Dawson.

The schools in the Territory follow the program of studies of the British Columbia Department of Education. The public schools at Dawson and Whitehorse have high school departments providing education leading to university entrance. The university entrance (junior matriculation) examinations are held in June at Dawson and Whitehorse by authority of the Department of Education of the Province of British Columbia. Examination papers are forwarded from Victoria and are returned there for grading. In outlying districts correspondence courses are provided at a nominal fee by arrangement with the British Columbia Department of Education.

Educational matters in the Yukon Territory are in charge of a Superintendent of Schools, resident at Whitehorse, who is responsible to the Commissioner (*see* p. 95). Inspections of all schools are made periodically by the Superintendent.

The education of Indian children is carried on in day schools operated by the Indian Affairs Branch of the Department of Citizenship and Immigration and in residential schools operated by religious denominations. Full time day schools are maintained at Whitehorse, Carmacks, Mayo, Moosehide and Old Crow. Seasonal schools are conducted by the denominational workers at Ross River and elsewhere as opportunity arises. At Carcross there is a residential school operated under the auspices of the Church of England in Canada; a new building has been erected and was opened in September 1954. The Baptist church conducts a hostel at Whitehorse where Indian pupils are maintained at the expense of the Federal Government. These pupils attend the Whitehorse Indian School. Indian pupils of Roman Catholic affiliation attend the Indian residential school operated under Roman Catholic auspices at Lower Post, B.C., which is located close to the southern boundary of Yukon Territory. Residential schools in Yukon Territory receive a per capita grant for Indian children registered therein.

Section 3.—Statistics of Schools, Universities and Colleges

Educational institutions in Canada are here grouped in four divisions: provincially controlled schools, privately controlled schools, universities and colleges, and federal schools in the Territories and for Indians. The first three groups are dealt with in this Section, and information on Indian schools, with the exception of enrolment figures shown in Table 2, is included with the general material on the Indians of Canada given in the Population Chapter, at pp. 172-173.

The provincially controlled schools, both public and separate, are most numerous and account for about 90 p.c. of the total enrolment shown in Table 2. These schools are financed essentially through direct taxes on property (the amount fixed by local school authorities) and provincial grants. In addition there is a much smaller number of private schools in all provinces (i.e. schools that are not conducted by publicly elected or publicly appointed boards and are not financed out of public money). At the higher education level considerable provincial support is given to the six provincial universities and one or more colleges in each of the other provinces and some provincial aid is given to most of the other 16 private universities and 163 colleges giving degree credit courses. In addition all degree granting universities and colleges receive grants from the Federal Government.

Agricultural colleges and schools, showing location, courses offered and other pertinent information are given in the Agriculture Chapter, pp. 406-408.

2.—Enrolment in Educational Institutions classified by Type of School and by Province, School Year 1952-53

Type of School	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	No.	No.	No.	No.	No.	No.
Provincially Controlled Schools—						
Ordinary and technical day schools.....	87,813	19,739	141,454	111,454	719,039	877,874
Evening schools.....	2,100 ¹	—	4,441	2,698	75,500 ¹	76,554
Correspondence schools.....	6	91	1,533	310	1,681	1,736
Special schools ²	—	—	336	—	813	552
Teacher training schools—						
Full time ³	103	67	228	135	6,184 ¹	1,873
Accelerated courses ³	551	43	376	643	197	1,464
Privately Controlled Schools—						
Ordinary day schools.....	—	1,029	4,990	1,650	60,395	18,100
Business training schools—						
Day classes.....	—	104	510	551	5,400 ¹	5,710
Evening classes.....	—	86	307	375	3,300 ¹	5,528
Universities and Colleges—^p						
Preparatory courses.....	—	397	612	1,926	20,136	3,280
Courses of university standard.....	842	283	4,624	2,352	30,904	33,659
Other courses at university.....	—	117	536	567	16,808	12,476
Indian schools and schools in the Territories....	—	52	605	388	2,426	5,861
Totals.....	91,415	22,008	160,552	123,049	942,783	1,044,667
Population (June 1, 1953 estimate).....	383,000	106,000	663,000	536,000	4,269,000	4,897,000
	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.
Provincially Controlled Schools—						
Ordinary and technical day schools.....	139,590	163,466	189,081	195,290	—	2,644,800
Evening schools.....	12,000 ¹	3,049	1,071	17,795	—	195,208
Correspondence schools.....	1,100 ¹	1,835	4,744	5,851	—	18,887
Special schools ²	21	177	—	155	—	2,054
Teacher training schools—						
Full time ³	387	577	452	613	—	10,619
Accelerated courses ³	400	—	—	—	—	3,674
Privately Controlled Schools—						
Ordinary day schools.....	6,749	2,886	3,515	7,072	—	106,386
Business training schools—						
Day classes.....	1,195	736	1,428	1,752	—	17,386
Evening classes.....	2,072	735	2,110	1,868	—	16,381
Universities and Colleges—^p						
Preparatory courses.....	449	711	630	—	—	28,141
Courses of university standard.....	6,135	6,394	5,684	7,384	—	98,261
Other courses at university.....	4,149	1,055	1,475	758	—	37,941
Indian schools and schools in the Territories....	3,562	3,609	3,272	5,447	3,256	28,478
Totals.....	177,809	185,230	213,462	243,985	3,256	3,208,216
Population (June 1, 1953 estimate).....	809,000	861,000	1,002,000	1,230,000	25,000	14,781,000

¹ Estimated. ² Schools for the blind and deaf: these are boarding schools and many of the pupils are from provinces other than the one in which the school is situated. ³ Courses for elementary teachers only; those for secondary teachers are included in university enrolment.

Subsection 1.—Provincially Controlled Elementary and Secondary Schools*

Enrolment and Attendance.—At the elementary school level enrolments have been increasing steadily since the school year 1944-45. Birth registrations and immigration figures for the past few years indicate that this trend will continue and by 1959-60 the enrolment in the elementary grades will be 2,900,000 or more and in the secondary grades at least 532,000, a total of 3,432,000 compared with 2,645,000 in 1952-53.

* Academic and vocational day schools only.

Other factors responsible for the increase in enrolment include: the introduction of family allowances in 1945 which both improved attendance and kept greater numbers of pupils in school to the legal age limit; increased attention to vocational guidance and other means of keeping pupils in school; greater appreciation of the importance of completing secondary education; increased transportation facilities provided at public expense; the erection of dormitories in certain provinces; adoption of larger units of administration and the establishment of junior high schools and of composite schools to serve rural areas particularly.

Enrolment in provincially controlled schools for the latest school year available is given in Table 2 and average daily attendance is shown in Table 3.

3.—Average Daily Attendance in Provincially Controlled Schools by Province, School Years Ended 1944-53

NOTE.—Comparable figures for earlier years will be found in previous editions of the Year Book, beginning with the 1932 edition.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1944.....	...	12,621	89,490	69,523	518,896	559,796	99,471	136,752	128,051	102,999	1,717,599
1945.....	...	12,984	93,831	70,746	523,741	571,625	100,971	135,336	130,095	107,599	1,746,928
1946.....	...	14,321	99,367	74,529	529,613	590,801	104,666	138,267	133,162	114,590	1,799,316
1947.....	...	14,850	102,099	78,129	533,765	597,400	103,739	135,038	131,011	121,334	1,817,365
1948.....	...	14,774	103,858	81,057	545,841 ¹	613,586	103,744	135,578	133,410	129,859	1,861,707 ¹
1949.....	59,520	14,727	107,914	82,168	566,544 ¹	638,733	105,240	135,872	136,690	138,941	1,986,349 ¹
1950.....	66,727	15,043	111,818	87,158	587,619 ¹	660,249	106,008	136,991	146,388	147,584	2,065,585 ¹
1951.....	67,638	15,310	114,285	84,923	605,955 ¹	674,901	112,749	137,606	150,013	154,077	2,117,457 ¹
1952.....	71,064	15,343	117,349	87,720	636,966 ¹	710,227	117,774	139,744	163,454	163,364	2,223,005 ¹
1953.....	77,040	16,212	126,650	95,771	671,165 ¹	775,319	124,514	142,190	173,954	176,138	2,378,953 ¹

¹ Estimated.

Grade Level.—Pupils in the provincially controlled schools of all provinces are distributed by grade level in Table 4.

4.—Grade Level of Pupils Enrolled in Provincially Controlled Schools by Province, School Year 1952-53

Grade	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont. ¹	Man.	Sask.	Alta.	B.C.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Kindergarten.....	297	—	14,424	—	5,980	62,144	4,711	3,053	3,139	1,751
Grade I.....	18,774	2,958	17,479	17,298	114,857	107,900	19,474	20,288	22,214	24,404
Grade II.....	10,449	2,235	13,826	13,048	104,515	92,000	15,425	17,477	20,494	20,242
Grade III.....	10,047	2,157	13,873	13,128	100,530	88,425	15,132	17,232	20,383	20,290
Grade IV.....	9,772	2,038	14,195	12,908	100,782	84,900	14,897	16,608	20,164	19,950
Grade V.....	8,904	1,972	13,940	12,172	88,414	81,000	13,983	16,343	18,551	18,885
Grade VI.....	7,631	1,855	12,522	10,685	74,160	74,401	12,639	15,325	17,505	17,529
Grade VII.....	6,568	1,824	11,702	9,566	56,584	67,575	12,053	15,288	16,448	16,730
Grade VIII.....	5,098	1,778	9,690	7,712	30,578	62,205	9,921	13,180	14,482	14,941
Grade IX.....	4,432	1,221	7,957	5,315	21,153	55,788	8,322	10,613	12,648	13,313
Grade X.....	3,176	1,031	5,915	3,915	10,493	40,491	6,330	7,727	9,637	10,799
Grade XI.....	2,180	567 ²	4,012	2,550	6,313	25,690	4,644	5,811	7,199	7,944
Grade XII.....	35	82 ²	1,573	1,714	1,903	18,811	1,646	4,094	6,217	5,789
Grade XIII.....	—	—	—	44	—	9,777	—	—	—	713
Special.....	450	—	346	507	2,309	6,767	413	427	—	464
Unclassified.....	—	21	—	892	468	—	—	—	—	1,546
Totals.....	87,813	19,739	141,454	111,454	719,039	877,874	139,590	163,466	189,081	195,290

¹ Province reports totals only for Grades I to III and IV to VI; numbers for these individual grades are estimated. ² Includes 372 Grade XI students and 65 Grade XII students enrolled in Prince of Wales College.

Teaching Staffs.—In 1953-54 the teaching staffs of provincially controlled elementary and secondary schools consisted of 26,302 men and 71,721 women, a total of 98,023. Omitting Quebec, for which comparable data are not available, 38 p.c. of the teachers were in cities, 31 p.c. were in towns and villages, 20 p.c. were in one room rural schools and the remaining 11 p.c. in schools of two or more rooms outside of urban centres. Again omitting Quebec where 36 p.c. of the teachers were members of religious orders, approximately 30 p.c. of the women teachers were married. Of the total number of teachers in the nine provinces (excluding Quebec), about 8 p.c. had received little or no training. At least 15 p.c. of the teachers leave the profession each year.

5.—Teachers in Provincially Controlled Schools classified according to Salary by Province, School Year 1953-54

NOTE.—Comparable figures for Quebec are not available.

Salary	Nfld.	P.E.I.	N.S.	N.B.	Ont.	Man.	Sask.	Alta.	B.C.
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Below \$1,025.....	689	62	365	460	284	2	4	1	—
\$1,025 - 1,524.....	1,156	441	1,113	590	1,149	243	355	79	2
\$1,525 - 2,024.....	513	145	1,276	1,362	2,665	922	1,269	276	130
\$2,025 - 2,524.....	207	80	858	732	7,294	2,108	2,250	1,037	1,117
\$2,525 - 3,024.....	155	20	551	448	5,434	963	1,815	1,788	1,214
\$3,025 - 3,524.....	107	4	279	290	3,427	403	671	1,247	1,104
\$3,525 - 4,024.....	29	3	134	117	2,933	326	331	794	1,349
\$4,025 - 5,024.....	9	2	86	136	4,716	264	453	798	1,298
\$5,025 - 6,024.....	—	—	5	17	2,200	54	48	208	699
\$6,025 - 7,024.....	—	—	—	4	644	22	3	31	132
\$7,025 and over.....	—	—	—	—	119	2	—	—	22
Unspecified.....	—	—	429	—	—	291	—	1,196	—
Totals.....	2,865	757	5,096	4,156	30,865	5,600	7,199	7,455	7,067
Median salaries..... \$	1,197	1,412	1,869	1,869	2,916	2,306	2,417	3,013	3,510

Financial Support.—The public elementary and secondary schools are financed almost wholly from money derived from local taxation and provincial grants. Fees for elementary schooling may be charged in Quebec. In a few of the other provinces nominal fees are charged for the higher secondary grades; in Newfoundland there is little local taxation and fees are generally charged.

In general school boards submit their budgets to the local municipal councils which levy for and collect the required amounts. However school boards in Quebec and a few in other provinces have the power to levy and collect taxes for school purposes. Assessment, on which taxes for school purposes are levied, is the total valuation of land and buildings and sometimes improvements, personal property or business income are added in. Steps have been taken by several provinces to equalize land assessment over large areas or even the whole province.

Each province has its own method of apportioning funds to local school boards. Grants are of two types. (1) The basic grant may be calculated on a minimum cost determined by an amount per classroom, salary and qualifications of the teacher, average attendance, etc.—all provinces make some attempt to equalize educational opportunity through basing grants in part on some indication of need. (2) Special grants are paid to assist with transportation, music, arts and crafts, special classes, equipment, building costs, night classes, etc. and are largest in Quebec where there is marked emphasis on training for home industries, arts and crafts.

Newfoundland schools are financed largely from provincial funds. Tuition fees may be charged for Grades I to VIII except in St. John's College where fees may be charged for Grades I to XI. Fees may be charged also to provide for fuel and janitor work or these may be provided by the pupils' families. There is no local taxation for school

purposes. The Province pays the teachers according to class of certificate and experience and a few centres supplement this amount. The Province also makes an annual grant for plant maintenance and repairs and a building grant for new construction.

Table 6 presents a comparative statement of the finances of school boards operating provincially controlled schools in so far as this information is available from existing records.

6.—Income of School Boards of Publicly Controlled Elementary and Secondary Schools by Province, Fiscal Years Ended 1950-52

NOTE.—The receipts shown in this table do not include any amounts raised by loans or the sale of bonds or debentures as all revenue of this nature must be repaid ultimately with money raised by local taxation. Figures from 1914 are given in the corresponding table of previous Year Books beginning with the 1936 edition.

Province and Year	Provincial Government Grants	Local Taxation	Other Sources	Total Current Revenue Recorded	Debtenture Indebtedness ¹
	\$	\$	\$	\$	\$
Newfoundland.....1950	3,430,267	—	691,733 ²	4,122,000 ²	..
1951	3,557,275	—	652,725 ²	4,210,000 ²	..
1952	4,151,417	—	1,338,336 ²	5,489,753 ²	..
Prince Edward Island.....1950	570,908 ³	488,714	62,020	1,121,642	..
1951	626,067 ³	538,504	127,255	1,291,826	..
1952	641,328 ³	600,546	71,619	1,313,493	..
Nova Scotia.....1950	5,658,799 ³	5,974,035 ²	..	11,632,834	..
1951	5,598,544 ³	6,226,050 ²	..	11,824,594	..
1952	5,378,276 ³	7,371,292 ²	..	12,749,568	..
New Brunswick.....1950	4,858,332 ³	6,660,199 ²	..	11,518,531	..
1951	4,774,407 ³	7,024,416 ²	..	11,798,823	..
1952	4,636,689 ³	7,615,277 ²	..	12,251,966	..
Quebec.....1950					
1951	15,910,137	50,579,638	2,479,097	68,968,872	54,138,073
1952	20,735,000	57,506,000	2,940,000	81,181,000	85,171,000
Ontario.....1950	42,661,144	73,195,577 ⁴	2,906,755	118,763,476	108,830,392
1951	47,355,143	91,569,593 ⁴	3,776,308	142,701,044	144,648,251
1952	53,968,946	105,621,372 ⁴	4,067,919	163,658,237	176,872,294
Manitoba.....1950	4,086,810	12,875,011	343,165	17,304,986	10,265,632
1951	4,347,543	13,967,343	333,655	18,648,541	12,520,784
1952	4,923,118	15,672,552	334,946	20,930,616	13,780,605
Saskatchewan.....1950	6,919,369	16,372,024	367,659	23,659,052	5,212,399
1951	7,466,027	17,750,804	404,685	25,621,516	5,815,690
1952	8,721,620	21,063,694	507,302	30,292,616	7,063,834
Alberta.....1950	7,794,234	19,619,264	481,376	27,894,874	20,200,574
1951	9,717,500	21,879,905	775,068	32,372,473	26,971,892
1952	10,957,753	25,214,092	849,372	37,021,217	31,590,656
British Columbia.....1950	14,794,397	16,683,852	874,219	32,352,468	..
1951	18,198,218	22,295,568	1,392,793	41,886,579	..
1952	17,866,531	25,810,942	1,665,800	45,343,273	..

¹ Net figures, after deduction of sinking funds. ² Estimated. ³ Includes contributions to teachers' salaries and, in New Brunswick, grants made to schools by the Vocational Education Board. ⁴ Includes amounts raised by counties and township grants for salaries of rural public school teachers.

Subsection 2.—Private Elementary and Secondary Schools

Private schools include all those not operated by publicly elected or appointed boards. Except in Quebec they receive no support from public funds. Instruction is similar to that given in public schools except that more opportunities may be given for music,

dramatics, art, etc. and in schools under religious control there is greater emphasis on religious instruction. In most provinces there is some form of inspection or regulation by the provincial Department of Education.

Of the 853 private schools reporting in 1952-53, 544 were in Quebec, 113 in Ontario, 124 in the Prairie Provinces, 38 in British Columbia and 34 in the Maritimes. There were 5,293 full time teachers of whom 1,289 were men. Outside of Quebec the salaries for lay teachers in these schools ranged from \$1,000 to \$8,000 with a median of \$2,421. Salaries of members of religious orders are omitted as they are usually only nominal.

About 65 p.c. of the pupils in these schools, of whom 40,000 were girls and 28,000 boys, were in the elementary grades. At the secondary level there were 23,000 girls and 15,000 boys.

Private schools are financed largely from fees, legacies and gifts, or are supported by religious organizations. Annual fees vary widely—126 schools charge no fees or fees under \$50, three schools charge fees of \$500 or more for day pupils, eight boarding schools have no fees or fees of less than \$50, and 15 other boarding schools have fees of \$1,000 and up. The median fee in 1952-53 was \$90 for day schools and \$450 for boarding schools. Expenditures in that year amounted to over \$17,159,000, of which \$5,413,000 was paid out in teachers' salaries.

7.—Enrolment in Private Elementary and Secondary Schools by Province, School Years Ended 1944-53

NOTE.—Figures from 1921 will be found in the corresponding table of previous Year Books beginning with the 1937 edition. There is one small private school in Newfoundland.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1944.....	803	3,452	3,631	60,803	14,967	4,659	2,545	3,767	5,757	100,384
1945.....	754	3,913	2,843	61,828	15,911	4,593	3,544	2,032	5,704	101,122
1946.....	804	3,362	2,903	..	16,336	4,643	3,682	2,852	5,576	40,158 ¹
1947.....	803	3,109	2,841	..	15,694	4,125	3,721	2,507	5,195	37,995 ¹
1948.....	877	3,414	2,341	59,020	16,586	4,653	2,710	2,519	5,983	98,103
1949.....	951	3,894	2,504	60,000 ²	18,251	5,348	2,625	3,630	6,334	103,537 ²
1950.....	971	4,217	2,306	56,240	18,823	5,271	2,630	3,539	6,256	100,253
1951.....	969	4,709	2,129	55,667	20,141	6,226	3,138	3,527	6,170	102,676
1952.....	1,004	4,690	1,852	55,111 ²	18,573	6,564	2,842	3,447	6,531	100,614 ²
1953.....	1,029	4,990	1,650	60,395	18,100	6,749	2,886	3,515	7,072	106,386

¹ Exclusive of Quebec.

² Estimated.

Business Colleges.—Of the 134 business schools reporting in 1952-53 in eight provinces (exclusive of Quebec and Newfoundland), 15 were in the Maritimes, 76 in Ontario, 25 in the Prairie Provinces and 18 in British Columbia. These employed 118 men and 271 women as full time teachers and 28 men and 101 women as part time teachers.

In these schools, girl students far outnumbered boys and the enrolment in evening classes was greater than that in the full time day classes. The 1952-53 enrolments were: full time day classes, 8,446 girls and 1,323 boys; part time day classes, 1,833 girls and 384 boys; evening classes, 10,139 girls and 2,162 boys; correspondence courses, 617 girls and 163 boys. The total for the year was about 700 fewer than for 1951-52. More than three-quarters of the full time day students were from 16 to 19 years of age, inclusive.

Monthly fees ranged from \$6 to \$35 for day classes and from \$3 to \$15 for evening classes. Total operating expenditures for 1953 amounted to over \$2,500,000, of which \$1,162,000 went for teachers' salaries.

8.—Enrolment in Private Business and Commercial Schools (Business Colleges) by Province, School Years Ended 1944-53

NOTE.—Figures include day and evening classes. Those from 1921 will be found in the corresponding table of previous Year Books beginning with the 1937 edition.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1944.....	197	881	348	6,256	11,724	2,988	1,869	2,780	3,415	30,458
1945.....	104	684	816	6,957	11,141	3,532	1,200	2,726	2,906	30,066
1946.....	181	1,080	805	..	14,901	4,099	1,568	3,482	4,021	30,137 ¹
1947.....	212	1,106	1,119	..	15,024	3,721	1,904	3,855	4,009	30,950 ¹
1948.....	227	1,011	958	..	13,917	3,493	1,533	3,731	3,674	28,544 ¹
1949.....	214	1,070	916	13,800 ²	12,938	3,449	1,554	2,969	3,932	40,342 ²
1950.....	185	1,053	1,099	12,900 ²	11,999	3,648	1,662	2,700	4,356	39,602 ²
1951.....	152	825	958	11,905 ²	11,101	3,084	1,595	2,694	3,408	35,722 ²
1952.....	156	861	868	12,500 ²	11,800	3,595	1,540	3,211	3,737	38,268 ²
1953.....	190	817	926	11,900 ²	11,238	3,267	1,471	3,538	3,620	36,967 ²

¹ Exclusive of Quebec.

² Estimated.

Subsection 3.—Universities and Colleges

Total registration in universities and colleges for the academic year 1952-53 is shown in Table 9. In that year the full time enrolment of university-grade students was 65,174, a slight increase over the 63,499 students reported in 1951-52. In addition there were 29,341 high school and other students registered in the universities and another 69,828 taking part time and various short courses. Thus the total enrolment in all institutions in 1952-53 was 164,343.

9.—Registration in Universities and Colleges by Province, Academic Year 1952-53²

Province and Item	Under-graduate	Post-graduate	Pre-Matriculation	Others	Total
	No.	No.	No.	No.	No.
Newfoundland—					
Full time.....	423	—	—	—	423
Other.....	419	—	—	—	419
Prince Edward Island—					
Full time.....	268	—	397	117	782
Other.....	15	—	—	—	15
Nova Scotia—					
Full time.....	3,660	96	453	27	4,236
Other.....	820	48	159	509	1,536
New Brunswick—					
Full time.....	1,801	41	1,604	138	3,584
Other.....	452	58	322	429	1,261
Quebec—					
Full time.....	21,169	1,070	18,036	2,605	42,880
Other.....	8,069	596	2,100	14,203	24,968
Ontario—					
Full time.....	18,875	1,792	3,165	359	24,191
Other.....	11,537	1,455	115	12,117	25,224
Manitoba—					
Full time.....	4,405	65	264	373	5,107
Other.....	1,572	93	185	3,776	5,626
Saskatchewan—					
Full time.....	2,304	94	711	239	3,348
Other.....	3,970	26	—	816	4,812
Alberta—					
Full time.....	3,244	109	630	207	4,190
Other.....	2,198	133	—	1,268	3,599
British Columbia—					
Full time.....	5,523	235	—	16	5,774
Other.....	1,350	276	—	742	2,368
Totals—					
Regular Session, Full Time.....	61,672	3,502	25,260	4,081	94,515
Regular Session, Part Time.....	5,268	1,739	261	3,744	11,012
Summer Schools and Extramural Courses.....	25,134	946	2,620	30,116	58,816

The enrolment in Canadian universities of full time students from other countries has increased considerably during the postwar years. In 1952-53 almost half of the outside enrolment came from the United States. Table 10 gives a percentage classification of the outside enrolment for selected years and also the number of Canadian students studying in the United States in the same years.

10.—Students from Other Countries in Canadian Universities and Canadian Students in the United States, Academic Years 1931-53

Year	Total Full Time University-grade Enrolment	Outside Enrolment	Percentage of Outside Enrolment from—				Canadian Students in USA
			USA	UK	BWI	Other Countries	
	No.	No.					No.
1931.....	32,926	2,129	70.7	15.6	2.5	11.2	1,313
1936.....	35,108	2,443	82.6	6.4	1.3	9.7	1,075
1941.....	36,319	1,882	78.5	2.2	3.9	15.4	1,458
1946.....	63,550	2,053	54.4	8.1	12.8	24.7	1,636
1951.....	68,308	3,188	55.1	5.2	7.9	31.8	4,528
1952.....	63,499	3,012	50.3	4.4	8.6	36.7	4,317
1953.....	65,174	3,118	47.9	7.2	9.1	35.8	4,572

Of the 65,174 full time university-grade students in 1953, 1,236 were in receipt of allowances from the Department of Veterans Affairs.

University Graduates.—Awards made during the 1952-53 session included 12,380 bachelor and first professional degrees, 1,421 masterships and licentiates, 270 earned doctorates as well as 284 honorary doctorates, and 6,727 diplomas and certificates.

11.—Graduates from Universities and Colleges, Academic Years Ended 1950-53

NOTE.—Figures for 1920-36 are given in the 1938 Year Book, pp. 993-997, and for 1937-49 in the corresponding table of subsequent editions.

Course	1950		1951		1952		1953	
	Total	Female	Total	Female	Total	Female	Total	Female
	No.	No.	No.	No.	No.	No.	No.	No.
Graduates in Arts, Pure Science and Commerce.....	8,983	2,158	7,834	2,068	7,123	1,971	6,929	1,858
Bachelors of Arts ¹	6,791	1,987	6,059	1,869	5,623	1,811	5,455	1,685
Bachelors of Science (in Arts).....	1,242	129	1,067	152	837	125	783	139
Bachelors of Commerce ²	950	42	708	47	663	35	691	34
Graduates in Applied Science.....	4,082	8	2,748	4	2,075	15	1,545	5
Bachelors of Applied Science in Engineering.....	3,598	2	2,427	3	1,770	5	1,337	2
Bachelors of Architecture ³	165	6	164	1	147	9	102	3
Bachelors of Forestry.....	319	—	157	—	158	1	106	—
Graduates in Agriculture, Veterinary Science and Household Science.....	1,229	301	1,008	310	713	288	641	263
Bachelors of Agricultural Science.....	804	23	556	17	332	28	293	14
Graduates in Veterinary Science.....	150	3	175	16	125	4	98	—
Bachelors of Household Science.....	275	275	277	277	256	256	250	249

For footnotes, see end of table.

11.—Graduates from Universities and Colleges, Academic Years Ended 1950-53—concluded

Course	1950		1951		1952		1953	
	Total	Female	Total	Female	Total	Female	Total	Female
	No.	No.	No.	No.	No.	No.	No.	No.
Teacher Diplomas and Graduates in Education and Social Service.....	1,925	449	1,928	478	1,782	464	1,734	469
Teacher diplomas.....	858	..	835	..	756	..	806	..
Degrees in education or pedagogy.....	531	138	577	155	586	181	524	187
Librarian degrees and diplomas.....	117	88	122	99	102	78	105	96
Physical training degrees and diplomas..	151	61	129	60	98	54	89	41
Social service degrees and diplomas.....	268	162	265	164	240	151	210	145
Graduates in Medicine and Related Studies.....	2,179	722	2,119	661	1,880	584	2,105	783
Medical doctors.....	817	42	867	61	798	35	832	42
Dentists.....	329	4	294	2	201	1	219	5
Pharmacists.....	422	65	406	46	371	38	360	43
Degrees and diplomas in nursing.....	538	538	492	492	435	435	604	603
Physiotherapy and occupational therapy..	73	73	60	60	75	75	90	90
Graduates in Law and Theology.....	1,271	49	1,246	37	1,159¹	55	1,164	59
Law schools.....	764	28	712	20	562 ¹	26	586	28
Roman Catholic theological colleges....	326	—	345	—	365	—	367	—
Protestant theological colleges.....	181	21	189	17	232	29	211	31
Postgraduate and Honorary Degrees....	2,623	472	2,559	410	2,351	422	2,534	415
Honorary doctorates.....	198	8	186	11	222	10	284	11
Doctorates in courses.....	220	21	202	11	234	21	270	25
Masters.....	1,186 ¹	208 ¹	1,212 ¹	184 ¹	1,162 ¹	192 ¹	1,079	185
Bachelors of Divinity.....	73	3	137	6	106	3	159	4
Licentiates (except in theology).....	335	34	352	36	281	49	342	40
Other postgraduate degrees and diplomas ⁴	611	198	470	162	346	147	400	150

¹ Includes Bachelors of Letters and of Social Science.

² Includes Bachelors of Accountancy and Secretarial Science.

³ Includes diplomas in Architecture from the Schools of Fine Arts of Montreal and Quebec.

⁴ Except diplomas for teachers and theologians.

Academic Staff.—The following table shows the almost continuously upward trends in full time and part time teaching staffs since 1921.

12.—Teaching Complement in Universities and Colleges, Academic Years Ended 1921-53

Year	Faculties of Arts and Science		Professional Schools		Totals ¹	
	Full Time	Part Time	Full Time	Part Time	Full Time	Part Time
	No.	No.	No.	No.	No.	No.
1921.....	1,191	242	942	1,179	2,133	1,352
1931.....	1,776	519	1,127	1,705	2,903	2,077
1941.....	2,037	579	1,707	2,420	3,452	2,185
1946.....	2,466	1,010	2,645	2,440	4,937	2,797
1947.....	2,814	1,002	3,078	2,478	5,246	3,441
1948.....	3,042	1,119	3,257	2,667	5,447	3,591
1949.....	2,871	1,202	3,051	2,755	5,339	3,887
1950.....	2,890	1,153	3,078	3,036	5,246	4,127
1951.....	3,126	1,260	2,557	2,826	5,539	3,902
1952.....	3,141	1,354	3,066	3,720	5,874	4,756
1953.....	3,365	1,457	2,830	4,224	5,851	5,212

¹ Excludes duplication.

Median salaries in 1953-54 showed increases over those for earlier years. The figures below indicate median salaries paid to full time instructors at 17 of the larger universities in Canada.

Classification of Position	Median Salaries				
	1953-54	1952-53	1951-52	1950-51	1938-39
	\$	\$	\$	\$	\$
Dean.....	8,295	7,683	7,271	6,950	5,006
Professor.....	7,009	6,406	6,313	5,685	4,345
Associate professor.....	5,657	5,271	5,227	4,613	3,469
Assistant professor.....	4,676	4,415	4,381	3,834	2,708
Instructor and lecturer.....	3,659	3,333	3,329	2,847	1,035

By region, the median salaries in 1953-54 showed marked differences.

Classification of Position	Atlantic Provinces	Ontario and Quebec	Western Provinces	Canada
	\$	\$	\$	\$
Dean.....	6,000	9,321	8,281	8,295
Professor.....	4,750	7,364	6,859	7,009
Associate professor.....	4,567	5,869	5,661	5,657
Assistant professor.....	3,847	4,775	4,688	4,676
Instructor and lecturer.....	2,422	3,747	3,781	3,659

Income and Capital Resources.—University income figures for 1951-52, as shown in Table 13, reflect the first payments of the Federal Government grants. Income distribution for the 1952-53 session was: government grants, 52.9 p.c.; student fees, 28.1 p.c.; endowments and investments, 5.9 p.c.; and other sources, 13.1 p.c. The proportion of receipts from investments and endowments has decreased steadily since 1931, when they represented 16.2 p.c. of the current income.

13.—Income and Capital Resources of Universities and Colleges, Academic Years Ended 1921-53

NOTE.—The larger universities and many of the colleges in Canada are included and represent an enrolment of approximately 80 p.c. of the full time students of university grade throughout the period. The institutions omitted are mainly those conducted by religious orders where teachers receive little or no salary and the financial returns are, consequently, not comparable.

Year	Current Income					Deficit ²	Surplus ²	Capital Resources		
	From Endowments and Investments	Government Grants	Student Fees ¹	Miscellaneous	Total			Land, Buildings and Equipment	Endowments	Trust Funds
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1921.....	1,497	4,522	1,826	1,244	9,089	80	194	48,124	28,328	..
1931.....	2,258	6,925	3,323	1,455	13,961	600	126	82,403	48,459	..
1941.....	2,046	6,804	5,143	2,054	16,047	244	116	95,680	55,082	17,422
1946.....	2,397	10,485	9,779	3,153	25,815	75	532	102,627	56,975	28,999
1947.....	2,314	13,768	13,636	3,203	32,921	350	382	112,409	59,208	34,397
1948.....	2,387	14,863	14,903	4,689	36,842	169	347	123,248	63,724	42,302
1949.....	2,568	16,218	15,959	4,845	39,590	601	413	139,779	69,012	43,093
1950.....	2,950	16,959	15,409	5,140	40,458	1,037	778	150,178	84,410	37,821
1951.....	3,127	18,733	14,025	4,647	40,532	479	1,506	162,372	82,702	34,686
1952.....	3,185	25,284	14,544	5,208	48,221	1,122	1,778	181,393	81,737	37,507
1953 ³	2,981	26,973	14,318	6,678	50,950			190,803	82,502	38,580

¹ Board and lodging not included.

² Combined deficits or surpluses of schools reporting.

Memorial University of Newfoundland included for the first time.

³ Me-

The Federal Government, as a result of recommendations made by the Royal Commission on National Development in the Arts, Letters and Sciences, instituted a system of university grants, the first of which were paid during the academic year ended 1952. The grants are paid on the basis of 50 cents per head of population in each province, the eligible institutions receiving their share of the total provincial allotment on the basis of the number of full time students at university level attending degree courses. The distribution of payments, by province, is shown in Table 14.

14.—Federal Government Grants to Universities by Province, Academic Years 1952-55

Province and Year	Institutions	Eligible Enrolment	Total Grants Paid
	No.	No.	\$
Newfoundland.....1952	1	374	180,700
.....1953	1	407	187,000
.....1954	1	401	191,500
.....1955	1	505	199,000
Prince Edward Island.....1952	2	267	49,200
.....1953	2	251	51,500
.....1954	2	253	53,000
.....1955	2	245	52,500
Nova Scotia.....1952	13	3,475	321,250
.....1953	13	3,430	326,500
.....1954	13	3,696	331,500
.....1955	12	3,948	336,500
New Brunswick.....1952	6	1,893	257,800
.....1953	6	1,815	263,000
.....1954	6	2,014	268,000
.....1955	6	2,231	273,500
Quebec ¹.....1952	5	19,273	2,027,800
Ontario.....1952	27	18,203	2,298,750
.....1953	27	17,593	2,383,000
.....1954	27	16,939	2,448,500
.....1955	27	17,896	2,523,000
Manitoba.....1952	7	3,932	388,250
.....1953	7	3,953	399,000
.....1954	7	4,051	404,500
.....1955	7	4,171	414,000
Saskatchewan.....1952	14	2,301	415,850
.....1953	14	2,314	421,500
.....1954	14	2,424	430,500
.....1955	14	2,684	439,000
Alberta.....1952	4	2,844	469,750
.....1953	5	2,937	485,000
.....1954	4	3,171	501,000
.....1955	4	3,297	519,500
British Columbia.....1952	4	5,664	582,600
.....1953	4	5,457	599,000
.....1954	5	5,616	615,000
.....1955	5	6,005	633,000
Totals ¹.....1952	83	58,266	6,991,950
.....1953	79	58,157	6,115,500
.....1954	79	58,565	5,243,500
.....1955	78	40,982	5,390,000

¹ Quebec received federal grant for 1951-52 only.

PART II.—CULTURAL ACTIVITIES RELATED TO EDUCATION

An outline of the *Report of the Royal Commission on National Development in the Arts, Letters and Sciences*,* which was tabled in Parliament on June 1, 1951, is given in the 1952-53 Year Book, pp. 342-345.

Section 1.—Art and Education†

Fine Art Schools, Galleries and Museums.—Fine art appears as an elective subject of the faculty of arts in a number of universities, where it may be taken as one of five subjects for a year or two; in some, e.g., Acadia University, N.S., there are six or more elective courses. In Mount Allison University, N.B., and in the Universities of Saskatchewan and Manitoba, there is a sufficient number of courses to allow the taking of a Bachelor's degree with specialization in fine art. At the University of Toronto, Ont., an Honour B.A. in art and archæology is offered, as well as graduate work in this field. Departments of fine art were opened by McGill University in 1948-49, by the University of British Columbia in 1949-50 and by the University of Alberta in 1953-54; McMaster University reopened its department in 1951.

There are also schools of art not requiring any fixed academic standing for admission, as they are more concerned with the technical development of the artist. The most widely known of these are:—

- Nova Scotia College of Art, Halifax, N.S.
- Ecole des Beaux-Arts, Quebec, Que.
- Ecole des Beaux-Arts, Montreal, Que.
- School of Art and Design, Montreal Museum of Fine Arts, Montreal, Que.
- Ontario College of Art, Toronto, Ont.
- University of Manitoba School of Art, Winnipeg, Man.
- Provincial Institute of Technology and Art, affiliated with the University of Alberta, Calgary, Alta. (Summer session at Banff, Alta.)
- Vancouver School of Art, Vancouver, B.C.

Courses in these schools vary in length with the requirements of the individual student but may extend over as many as four years. Summer schools of art are sponsored by some of the foregoing institutions, by universities, and by various independent groups.

Public art galleries and museums in the principal cities perform valuable educational services among adults and children. Children's Saturday classes, conducted tours for school pupils and adults, radio talks, lectures and often concerts are features of the programs of the various galleries. Many of these institutions supply their surrounding areas with travelling exhibitions, and organizations such as the Maritime Art Association, the Western Canada Art Circuit, the Saskatchewan Arts Board and the Art Institute of Ontario, have been founded to carry on the work on a regional basis. The National Gallery of Canada has a nationwide program of this nature.

The principal art galleries and museums‡ are:—

- New Brunswick Museum, Saint John, N.B.
- Museum of the Province of Quebec, Quebec, Que.
- Montreal Museum of Fine Arts, Montreal, Que.
- National Gallery of Canada, Ottawa, Ont.
- London Public Library and Art Museum, London, Ont.
- Art Gallery of Toronto, Toronto, Ont.
- Royal Ontario Museum of Archæology, Toronto, Ont.
- Art Gallery of Hamilton, Hamilton, Ont.
- Willistead Library and Art Gallery, Windsor, Ont.
- Winnipeg Art Gallery, Winnipeg, Man.
- Regina College Gallery, Regina, Sask.
- Edmonton Museum of Arts, Edmonton, Alta.
- Vancouver Art Gallery, Vancouver, B.C.
- Arts Centre of Greater Victoria, Victoria, B.C.

* Ottawa, Queen's Printer, 1951.

† Revised under the direction of Alan Jarvis, Director, National Gallery of Canada, Ottawa.

‡ A complete list of Canadian art museums, societies and schools is included in the Canadian section of the current issue of the *American Art Directory* (New York, R. R. Bowker Co.).

The National Gallery of Canada.—Founded in 1880 by the Marquis of Lorne, the National Gallery at first served only as an exhibition gallery. Provided with an Advisory Arts Council in 1907, and first incorporated under a Board of Trustees in 1913, it has assembled a permanent collection mainly during the past 40 years. This collection of pictures and sculpture, prints and drawings, representing the styles, past and present, of various parts of the world, was assembled for public enjoyment, study, and the improvement of arts and industrial products, and as the necessary basis of a program of art education. The National Gallery Act, amended in 1951, gives the institution a larger Board of Trustees and other advantages.

The collection of the National Gallery today is of international repute and is accessible to the whole country by means of catalogues, photographs, colour reproductions and, to a limited extent, by loans. The Canadian section, naturally the most inclusive, is the best available source for the study of Canadian art. Each year, examples of the best contemporary work are added, along with those of earlier periods.

The National Gallery conducts a program of extension work throughout the country. The majority of exhibitions are available to the entire country and are widely circulated. About 30 such exhibitions are toured and as many as 200 separate showings have been held annually under the auspices of the National Gallery of Canada. In addition individual loans of material from the collection are made to centres in many parts of the country each year. In this way original works of art are constantly being brought to the attention of the public. Sets of reproductions are also sent on tour of localities that have not the facilities for handling originals.

The latest major development in the general educational work of the National Gallery is the Industrial Design Division set up as the result of public interest in bringing the design of Canadian goods up to the best international standards and in fostering distinctive Canadian designs. A number of exhibitions on Canadian industrial art have been held in various parts of the country. In 1953 the Design Centre was opened in the Laurentian Building, Ottawa, to serve as an exhibition centre and as headquarters for the national program in industrial design sponsored by the National Gallery.

Other methods of education in the arts apply more specifically to young people and are designed, in part, to supplement regular school work. The Gallery provides written lectures illustrated by lantern slides on all aspects of art history, reproductions of paintings with introductory texts for art appreciation, school broadcasts, classes for school children at the Gallery, exhibitions of children's art, conducted tours of the Gallery's collections and educational demonstrations. Lecture tours by wellknown authorities are also held throughout Canada.

The National Gallery also maintains a library of art films. These as well as the facsimile colour reproductions and silk screen prints published by the National Gallery are listed in the free leaflet, *Reproductions, Publications and Educational Material*. In connection with the CBC school broadcasts on Canadian artists, the National Gallery in 1953 distributed 250,000 small colour reproductions to school children in all parts of the country. The magazine *Canadian Art*, in the publication of which the National Gallery has taken a leading part, has doubled its circulation since 1945.

Speaking highly of the Gallery's work over many years despite serious difficulties, the *Report of the Royal Commission on National Development in the Arts, Letters and Sciences** made recommendations for the extension and improvement of its exhibition and education services; increases in funds, staff and facilities; maintenance and increase where possible of present appropriations for acquisitions; and, as soon as possible, a new building containing adequate facilities for display, storage, circulation of exhibitions and conservation of paintings.

Further details concerning recent purchases, exhibitions and lecture tours arranged by the National Gallery are contained in the *Annual Report of the Board of Trustees*.

* Ottawa, Queen's Printer, 1951. See also, *Royal Commission Studies, a Selection of Essays prepared for the Royal Commission*. Ottawa, Queen's Printer, 1951.

Other Art Organizations.—The leading art organizations of national scope, exclusive of museums and art galleries, include the following:—

Association of Canadian Industrial Designers
 Canadian Arts Council*
 Canadian Group of Painters
 Canadian Guild of Potters
 Canadian Handicrafts Guild
 Canadian Museums Association†
 Canadian Society of Graphic Arts
 Canadian Society of Painter-Etchers and Engravers
 Canadian Society of Painters in Water Colour
 Canadian Society of Landscape Architects and Townplanners
 Community Planning Association of Canada
 Federation of Canadian Artists
 Royal Canadian Academy of Arts
 Royal Architectural Institute of Canada
 Sculptors Society of Canada.

Section 2.—The Educational and Cultural Functions of the National Film Board‡

The National Film Board, an agency of the Federal Government, was established by Act of Parliament in 1939 and reconstituted by the National Film Act in 1950. In the years since its beginning the Board has grown from a supervisory body over Canadian Government motion picture activities to a national documentary film producing and distributing organization whose films about Canada are seen wherever people may freely assemble. The Board also produces and distributes filmstrips and still photos on Canadian themes in accordance with its primary function outlined in the Act, "to initiate and promote the production and distribution of films in the national interest."

Films and filmstrips are being more widely employed as adjuncts to formal teaching in schools and universities. In the fiscal year 1954-55 there were 86,077 showings in schools of films made or distributed by the National Film Board.

Films produced by the Board are also shown in commercial theatres and on television in Canada and abroad. Items particularly designed for theatre use include the *Canada Carries On* and *Eye Witness* series in English (*En avant Canada* and *Vigie* in French) as well as newsreel features. Distribution of these usually is arranged through the major film distributing organizations, whose facilities are worldwide.

The non-theatre program in Canada is based on a nationwide system of film circuits, film councils and libraries and is deeply rooted in community activities. In the year ended Mar. 31, 1955 no less than 462 film councils—voluntary groups promoting wider use of documentary films—were in existence and 420 film libraries and depots, assisted in the circulation of thousands of prints.

Canada's story on film is also being told abroad. In addition to commercial distribution through theatres and television, non-commercial circulation is carried on through posts of the Departments of External Affairs and Trade and Commerce, through National Film Board offices in London, New York and Chicago, and through libraries operated by various educational agencies. Hundreds of prints of National Film Board films are also sold in other countries each year. Exchange agreements are in effect between the Board and government film-producing organizations in other lands; this means that films of various nations are freely exchanged with Canada, aiding better international understanding.

The National Film Board maintains a library of more than 100,000 still pictures, which are available to magazines, newspapers and other periodicals to present current information about Canada.

* An account of the Canadian Arts Council and a list of its constituent bodies appears in the 1951 Year Book, p. 308.

† Formed in 1947 with the object of improving the services of museums as educational institutions by promoting co-operation among themselves, by exchange with other countries and by the training and securing of expert staffs.

‡ Prepared, under the direction of the Government Film Commissioner, in the Information and Promotion Division, National Film Board, Ottawa.

Section 3.—The Educational and Cultural Functions of the Canadian Broadcasting Corporation*

Many hours of educational or semi-educational programs are broadcast annually by the Canadian Broadcasting Corporation in the English and the French languages. Whether these programs are directed to children or adults, entertainment is combined with information whenever possible. Spoken-word programs cover a very wide range of interests and are presented as readings, talks, discussions, documentary programs, dramatizations or in forms combined with music.

Preschool Broadcasts.—Though many story programs for preschool-age children are broadcast purely as entertainment, a special series has been developed to give young children, particularly in remote areas, many of the benefits of kindergarten training. This series, *Kindergarten of the Air*, is broadcast Monday to Friday for children from three and a half to six years of age. Planned with the advice of kindergarten experts and representatives of the Canadian Home and School Federation, the Federation of Women's Institutes and the Junior League, it includes stories, songs, mental games, keeping-fit exercises, information about animal life and nature study, and encourages good habits of hygiene, eating and relaxation. The program is intended primarily for home listening but has been found useful in many organized kindergarten groups and classes.

School Broadcasts.—In an average school year more than 1,000 school programs, mostly in dramatized form, are broadcast to all parts of Canada. The CBC provides facilities for thirty-minute daily programs specifically planned by departments of education to meet classroom requirements. These supplementary aids help teachers to stimulate student imagination and strengthen motives for study. The National School Broadcasts series are planned by the National Advisory Council on School Broadcasting to promote among students a stronger consciousness of Canada and its achievements. During the 1954-55 season seven such series were planned for students from Grade IV to senior high school. These were: *Voices of the Wild*, on Canadian wildlife; *This Gift of Freedom*, a series to help students to a better understanding and appreciation of Canada's democratic way of life; *I Was There*, a series dramatizing outstanding events in Canadian history; *Julius Caesar*, a full-length performance of the Shakespearian drama; *Life in Canada Today*, a series of features on the work of Canadians; *Commonwealth Round-up*, comprising four programs on interesting aspects of other Commonwealth nations with specially recorded effects contributed by the broadcasting organizations in the United Kingdom, Australia, South Africa and India; *Music in the Making*, a series of five broadcasts in which a new approach to music appreciation was used—a composer, Wolfgang Mozart, tells about his life with particular emphasis on one of his works, *The 39th Symphony*, a movement of which was played in each program.

The first experimental television programs for school use were presented during November 1954. These were eight telecasts planned to provide a visual supplement to classroom study in social studies, literature, science and art. They were divided into two series, one for Grades V-VI and one for Grades VII-VIII. They were presented in an early afternoon period, and carried (on kinescope) by five CBC owned and 12 privately owned TV stations. Teachers were supplied in advance with a manual giving detailed information about each telecast and advice on its utilization. Approximately 513 classes including 18,000 students, covering eight provinces, saw the telecasts. A report on the teachers' evaluation of the experiment was published by the CBC under the title *Television in the Classroom*. It recommended further experiment with classroom TV.

School broadcasts in the French language are presented thrice weekly by the New Brunswick Department of Education for French-speaking schools in that Province.

Particulars of school broadcasts are contained in the manual, *Young Canada Listens*, published annually by the CBC.

* Prepared under the direction of J. Alphonse Ouimet, General Manager, Canadian Broadcasting Corporation, Ottawa. Other aspects of CBC services are outlined in Chapter XX.

Adult Education.—Programs of an adult education nature are presented frequently by the CBC on its radio and television services. In the planning of these programs co-operation is received from various educational organizations. The CBC is an active participant in the work of the Joint Planning Commission, a body established by the Canadian Association for Adult Education for exchange of information and co-ordination of plans for adult education in Canada.

Radio Programs.—*Citizens' Forum* is a round-table program on which a panel of experts discuss important issues of the day. It is arranged jointly by the Canadian Association for Adult Education and the CBC. Its French counterpart, *Les Idées en Marche*, is planned in co-operation with La Société Canadienne d'Education des Adultes. A similar type of program, but one prepared specially for rural listeners, is *National Farm Radio Forum*, arranged in co-operation with the Canadian Federation of Agriculture and the Canadian Association for Adult Education. All these forum programs are heard by organized listening groups, which continue the discussion of the topic at the conclusion of the broadcast.

For the past three summers the evening sessions of the Couchiching Conference have been broadcast. This week-long conference, organized jointly with the Canadian Institute on Public Affairs, examines Canadian and international affairs in open meetings and group discussions.

Other programs of an educational nature are *Cross Section*, a series of drama documentaries dealing with economic and social questions; various dramatized series in the field of human relations and mental health; and *Trans-Canada Matinée*, a daily afternoon program including informative talks and commentaries designed specially for the woman in the home. This latter program was one of six CBC programs that captured a First Award at the 1954 Exhibition of Educational Radio and Television Programs at Columbus, Ohio. On the French Network, *Forum de Radio-Parents* presents broadcasts designed to help parents on the subject of child care, and general questions sent in by parents are answered by psychologists in the series *Le Courrier de Radio-Parents*. For women listeners the day time program *Femina* is presented twice weekly.

In the Province of Quebec the CBC's French network broadcasts *Radio-Colège*, a series of weekly programs dealing especially with fine arts, music, literature, theatrical arts, sciences, religion and philosophy. These broadcasts are not designed for classroom use, being of a more adult nature than those on the English-language networks and scheduled, in the main, for other than school hours.

In addition talks on a wide range of subjects including international affairs, Canadian history and community activities are broadcast regularly over the various networks.

Television.—Organized in co-operation with the Universities of Toronto and Montreal and McGill University, the program *Exploring Minds* presents, in panel or lecture form, examples of the work of the modern university. On *This Week* the important world news of the preceding week is discussed by a panel of experts. *Fighting Words* is a program on which guest experts in the fields of arts and sciences discuss controversial quotations sent in by viewers. A daily program—*Living*—presents information of interest to consumers on a wide variety of commodities and services.

Section 4.—Library Services

The National Library.—The National Library of Canada, authorized by the National Library Act of June 18, 1952 (1 Elizabeth II, c. 330), came into existence formally on Jan. 1, 1953. The work formerly carried on by the Bibliographic Centre and the staff of the Centre were then absorbed by the National Library, which came under the administration of the Secretary of State.

The Act provides for the establishment of an Advisory Council consisting of 15 members, including at least one representative from each of the ten provinces; the appointment of a National Librarian, an Assistant Librarian and other personnel. Duties of the National Librarian include the establishment of a National Union Catalogue listing the books in every important collection in Canada; the purchasing of book stock; and the publication of a National Bibliography listing books published in Canada, written by Canadians, or of special interest to Canadians. The Act requires two copies of each book published in Canada to be supplied to the National Librarian within one month of the date of publication; one copy of expensive books must be deposited.

The site has been selected and working plans are being prepared for the National Library building at Ottawa. The acquisition of book stock is limited until permanent quarters are available but activities in other departments of the Library reflect noteworthy progress. The coverage of *Canadiana*, a bilingual monthly publication listing new Canadian publications, has been expanded to include those issued by all provincial governments. By Dec. 31, 1954 individual library catalogues representing about 5,963,000 volumes in 91 libraries had been microfilmed for the National Union Catalogue. In addition the library has assumed the duty of receiving, registering and acknowledging all books deposited under the terms of the Copyright Amendment Act.

Public Libraries.—Public library service in Canada includes main libraries and their branches in metropolitan areas—sometimes augmented by bookmobile service to outlying districts—small association libraries in villages and hamlets, regional service on a county or wider basis, and the use of boats and the mails to supply remote rural areas. Through these facilities, 75 p.c. to 80 p.c. of the population receive library service.

The current DBS Survey of Libraries presents statistics for the year 1953. Operations of the 766 public libraries surveyed are given in Table 1. The 1954 DBS publication *Free Urban and Regional Public Libraries* contains data on all free libraries in urban areas of 10,000 or over, all regional libraries and an estimate of volumes, circulation and expenditures.

1.—Summary Statistics of Public Libraries by Province 1953

Province	Volumes	Circulation	Borrowers	Current Expenditure	Full Time Staff
	No.	No.	No.	\$	No.
Newfoundland.....	179,362	499,304	25,385	122,353	23
Prince Edward Island.....	85,995	304,008	13,500	47,390	11
Nova Scotia.....	196,086	931,077	73,572	224,015	46
New Brunswick.....	137,147	218,574	27,711	59,960	16
Quebec.....	1,101,286	1,830,825	93,440	697,739	136
Ontario.....	4,911,782	18,811,520	991,174	4,503,187	964
Manitoba.....	195,320	988,343	44,519	259,979	64
Saskatchewan.....	340,045	1,048,085	60,117	291,039	59
Alberta.....	505,427	2,022,310	119,493	467,740	101
British Columbia.....	752,925	4,292,684	223,031	1,138,063	250
Totals.....	8,405,375	30,946,730	1,671,942	7,811,465	1,670

Of the 766 libraries reporting in 1953, 92 were in cities of 10,000 population or over. They employed 78 p.c. of the total full time staff members and accounted for over 87 p.c. of the total expenditures. Median salaries in city libraries varied with the size of the city as follows:—

Staff	Cities with Populations of—		
	10,000- 24,999	25,000- 99,999	100,000 or over
	\$	\$	\$
Chief librarian.....	3,250	4,344	5,273
Head of branch or division.....	2,667	3,306	3,579
Other librarians.....	2,194	2,814	2,497
Other classifications.....	1,667	2,554	2,434
Clerical staff.....	1,808	1,917	2,108

In addition to the primary task of circulating reading material, public libraries undertake varied special services. City libraries in 1953 lent 89,296 films and 108,225 records, gave 656 concerts, presented 336 radio and drama shows and had 4,265 public film showings with total attendance of over 4,000,000. About 4,860 story hours for children were presented, usually on Saturday mornings. In addition 357,217 requests for information were answered.

Regional Library Service.—Regional library service, or an adaptation thereof, now functions in Newfoundland, Prince Edward Island, Nova Scotia, Ontario, Saskatchewan, Alberta and British Columbia. In addition a Director of Regional Libraries was appointed in January 1954 in New Brunswick, preparatory to the establishment of a regional library system in that Province, and preliminary surveys are being undertaken in Manitoba. Summary statistics for the regional libraries in operation are given in Table 2.

2.—Summary Statistics of Libraries Organized for Regional Collaboration 1954

Regional Organization	Volumes	Circulation	Expenditure	
			Book Stock	Total
	No.	No.	\$	\$
Newfoundland Regional Libraries ¹	153,591	412,882	..	..
Prince Edward Island Libraries.....	86,186	326,954	11,000	41,840
Nova Scotia Regional Libraries—				
Annapolis Valley.....	22,716	122,315	3,226	22,943
Cape Breton.....	49,336	248,401	12,580	57,748
Colchester—East Hants.....	30,000	142,557	4,932	19,381
Pictou County.....	16,886	149,328	4,733	23,271
Ontario County Library Co-operatives—				
Bruce.....	12,108	68,332	2,700	7,103
Elgin.....	21,059	134,368	3,565	11,852
Essex.....	17,922	200,000 ²	4,768	18,489
Huron.....	16,258	152,045	2,884	17,239
Kent.....	18,351	118,198	3,971	11,325
Lambton.....	20,206	159,875	4,159	13,019
Middlesex.....	21,846	167,000 ²	6,836	15,803
Oxford.....	12,603	150,560	3,791	11,680
Peel.....	9,071	47,518	3,269	9,359
Simcoe.....	16,196	108,164	3,292	14,707
Thunder Bay District.....	8,418	25,523	4,220	11,579
Victoria.....	7,401	54,690	3,308	7,028
Welland.....	15,694	155,804	4,109	14,238
Wentworth.....	16,544	189,085	4,884	20,392
Saskatchewan Regional Libraries—				
North-Central Saskatchewan.....	26,300	81,130	9,647	26,165
Alberta Regional Libraries—				
Barrhead.....	7,700	41,500	2,453	5,542
Lacombe.....	10,000	8,083 ³	10,434	20,556
British Columbia Union Libraries—				
Fraser Valley.....	79,285	519,324	29,132	93,562
Okanagan.....	62,145	344,775	16,550	67,475
Vancouver Island.....	56,551	353,074	13,346	79,216

For footnotes, see end of table.

2.—Summary Statistics of Libraries Organized for Regional Collaboration 1954—concluded

Regional Organization	Branch Libraries	School Deposits and Other Agencies	Population Served	Borrowers
	No.	No.	No.	No.
Newfoundland Regional Libraries ¹	7	352	70,000	18,034
Prince Edward Island Libraries.....	24	1	98,500	14,039
Nova Scotia Regional Libraries—				
Annapolis Valley.....	8	161	41,890	10,200
Cape Breton.....	9	120	111,896	26,521
Colchester—East Hants.....	5	135	42,000	8,050
Pictou County.....	5	134	38,427	11,000 ²
Ontario County Library Co-operatives—				
Bruce.....	20	128	40,276	..
Elgin.....	13	148	35,018	9,642
Essex.....	11	121	94,611	..
Huron.....	34	221	51,380	13,079
Kent.....	10	185	63,000	..
Lambton.....	19	137	39,000	..
Middlesex.....	25	150	70,000	..
Oxford.....	13	143	36,894	9,000
Peel.....	14	81	71,486	..
Simcoe.....	18	206	102,736	..
Thunder Bay District.....	9	57	105,000	..
Victoria.....	10	97	17,000	..
Welland.....	—	139	144,755	..
Wentworth.....	4	112	63,575	16,924
Saskatchewan Regional Libraries—				
North-Central Saskatchewan.....	11	1	29,223	7,582
Alberta Regional Libraries—				
Barrhead.....	—	24	5,000	1,970
Lacombe.....	15	23	14,000	1,275
British Columbia Union Libraries—				
Fraser Valley.....	11	265	116,013	23,624
Okanagan.....	56	55	69,990	21,841
Vancouver Island.....	13	233	76,181	14,221

¹ Includes figures for Newfoundland Travelling Library. 1954 only.² Estimated.³ September to December

Academic Libraries.—The 1953 Survey of Libraries covered 263 academic libraries which contained about 7,630,000 volumes, employed 545 full time and 615 part time personnel. Of all the employees 290 were trained in library science.

Government Libraries.—The 102 Federal Government libraries covered by the 1953 Survey reported 2,067,430 volumes and the 99 provincial government libraries reported 1,389,516 volumes. The federal libraries employed 345 full time staff members and the provincial libraries 162.

Business, Professional and Technical Libraries.—The 131 libraries operated by business, professional and technical societies and establishments in 1953 reported 774,629 volumes in stock. Two-thirds of these libraries reported full time staff numbering 253 persons.

Section 5.—Canada and the United Nations Educational, Scientific and Cultural Organization

Liaison between governmental and voluntary organizations in Canada and the United Nations Educational, Scientific and Cultural Organization is the responsibility of the Department of External Affairs. Canadian participation in UNESCO includes representation at the Sessions of the General Conference; the supplying of advice and

information on Canadian matters to the Secretariat of UNESCO; co-operation in projects undertaken by the Organization; the sending of Canadian representatives to international seminars sponsored by UNESCO; the administration of UNESCO fellowships and scholarships tenable in this country; and the promotion of UNESCO publications.

General Conferences of UNESCO are now held every two years. At these conferences progress during the preceding years is reviewed and a program for the next two years is determined. Fundamental education and technical assistance are regarded as the most important parts of the UNESCO program. In the scientific field, research toward improving the living conditions of mankind is emphasized and encouragement is given to projects designed to improve scientific liaison. UNESCO also endeavours to promote cultural exchanges, improve the means of communication among the peoples of the world and stimulate the exchange of persons between nations.

The total UNESCO budget for the financial period 1955-56 is \$21,617,830 and Canada's share is \$554,000 or 2.56 p.c. of the assessment level.

More than 100 voluntary organizations, official agencies and departments co-operate with the Department of External Affairs in arranging Canadian participation in the UNESCO program. Canadian support of UNESCO is considered to be an integral part of the country's support of the United Nations program of peace through international understanding.

PART III.—SCIENTIFIC AND INDUSTRIAL RESEARCH

Section 1.—The National Research Council*

Organized research in Canada on a national basis dates from 1916 when the Government of Canada established the Honorary Advisory Council for Scientific and Industrial Research under a Committee of the Privy Council. Provision was made for the planning and integration of research work, organization of co-operative investigations, postgraduate training of research workers, and prosecution of research through grants-in-aid to university professors. This was the basis of the Council's work from 1916 to 1924.

A Special Committee of Parliament, appointed to study a recommendation for establishing national laboratories, endorsed the proposal and the Research Council Act was revised by Parliament in 1924. Temporary laboratories were secured and research on utilization of magnesian limestones for refractories was carried out so successfully that a wartime industry, established during World War I, was re-established on a large scale. As a result, in 1929-30 the Government provided funds for new laboratories.

The National Research Building on Sussex Street, Ottawa, was opened in 1932 and in 1939 construction was begun of the aerodynamics building on a 130 acre site adjacent to the Rockcliffe Airport of the Royal Canadian Air Force. Later, other buildings were erected on this site, including woodworking and metalworking shops and separate laboratories for research on engines, gas and oil, hydraulics and structures. These facilities have since been enlarged and extended and new buildings have been provided for engineering, low temperature studies and high speed aerodynamics. In 1952 a cosmic ray laboratory, a thermodynamics building and a large structure to house the Division of Applied Chemistry were added and in 1953 a modern laboratory was constructed, in one of the Montreal Road service tunnels, for the exact measurement of surveyors' tapes. That year also saw the completion of the large and beautiful Building Research Centre, and the construction, on a new 250 acre site on the opposite side of the road, of new headquarters for the Division of Radio and Electrical Engineering. An underpass connects the two areas. The flight research section of the Division of Mechanical Engineering was transferred from its temporary quarters on the Arnprior Aerodrome to permanent quarters at Uplands Airport near Ottawa.

* Prepared by M. W. Thistle, Chief, Public Relations Branch, National Research Council, Ottawa.

A Prairie Regional Laboratory, constructed on the campus of the University of Saskatchewan, has been in operation since June 1948. A Maritime Regional Laboratory, built on Dalhousie University campus at Halifax, N.S., was opened in June 1952. The co-operation of a large oil company has made it possible for the Division of Building Research to establish a Permafrost Research Station at Norman Wells, N.W.T. This is one of the most northerly building research establishments in the world.

The National Research Council consists of the President, two Vice-Presidents (Scientific), one Vice-President (Administration) and 17 other members, each of the latter group being appointed for a term of three years and chosen to represent industry, labour or research in one of the basic natural sciences. Many of the members are drawn from the science departments of Canadian universities.

The Council's scientific and engineering activities are organized in nine Divisions and two regional laboratories, each with its own Director. Five laboratory Divisions are concerned with fundamental and applied studies in the natural sciences: applied biology, pure and applied chemistry, and pure and applied physics. Three others are devoted chiefly to engineering work—building research, radio and electrical engineering, and mechanical engineering which includes aeronautics and hydraulics. The Division of Medical Research has no laboratories of its own but awards grants-in-aid and fellowships tenable chiefly in the medical schools of Canadian universities.

In addition to its basic research functions, the Council operates an Information Service with a field staff of technical officers who assist the smaller industries across Canada by bringing their operating problems to the attention of the Council. Through a trained research staff, using the extensive library facilities available to the Council, it is usually possible to provide the required information at very short notice.

The Council aids industry in two other important ways. A free and constant flow of personnel and information is maintained between the Council laboratories and industrial laboratories, the aim being to have Canadian industry use the Council's laboratories just as the units of a large company use their own laboratories as sources of scientific information and assistance. The Council also undertakes for any firm, under contract, research problems that cannot be solved by private consulting and testing laboratories and, in return, obtains assistance from many companies. The Council has long standing and intimate contacts of this co-operative kind with many Canadian industries in various fields.

Associate committees were established by the National Research Council early in its history and have been continued to date. Throughout the years hundreds of specialists have accepted invitations from the Council to serve on committees and have brought their knowledge and experience to bear on the solution of research problems put before them. Members of committees give their time and effort to these special studies without charge, and their assistance is a source of great strength to the Council.

Assisted research grants have been made by the Council since its inception in 1916. These awards are given to heads of university science departments to purchase needed equipment and to employ junior helpers, usually students. Aid of this kind has been of considerable assistance in enabling the universities to put into operation the excellent graduate schools that now exist in Canada. In 1954-55 more than \$2,500,000 was provided out of Council funds for basic research at Canadian universities.

Scholarships and grants in aid of research are awarded annually by the National Research Council. Scholarships awarded in science and engineering include Bursaries, Studentships and Fellowships which have values of \$800, \$1,100 and \$1,400 respectively for the academic year, to which a summer supplement of \$800 may be added. In addition Special Scholarships valued at \$1,900 a year and Postdoctorate Overseas Fellowships at \$2,500 are offered. The Council also awards two classes of Graduate Medical Research Fellowships, which have values of \$1,800 to \$3,500 for awards involving graduate training and up to \$5,000 for senior awards in advanced research. Graduate Dental Research Fellowships of similar value are also made. About 270 of these different awards were made for 1954-55, totalling in value over \$380,000.

In recent years (since 1948), the National Research Council has opened its doors to a limited number of postdoctorate Fellows who have been carefully selected on the basis of merit from the universities of the world. About 100 of these keen young scientists are now working in the laboratories, most of them in chemistry, physics or applied biology. They are appointed for one year only but may be retained for a second year if conditions warrant. This flow of young men through the laboratories has a stimulating effect; it creates a sort of university atmosphere that is both fresh and invigorating and keeps the Council young.

Principal Activities in 1954-55.—The activities of the *Division of Applied Biology* range from applied studies on food storage and transport to more fundamental work on the metabolism and chemical composition of living organisms.

The maintenance of high humidity in cold storage rooms has been studied in an effort to reduce surface drying of foodstuffs. In an experimental room, relative humidities approaching saturation have been obtained by cooling the room indirectly through a jacket of cold air. The design features are being considered commercially.

The gray discoloration of processed pork has been related to a light-induced oxidation of the meat pigments: recent studies have shown that this change occurs much more rapidly in the muscle pigment than in the blood pigment. Because of the growing interest in medical and related fields, frozen storage of living cells and small organisms is under investigation. Studies on blood plasma albumins have shown that the serum albumin molecule consists of at least two sub-units rather than the single chain structure suggested by other workers. Work on the production of citric acid by submerged fermentation of beet-sugar molasses has shown that the laboratory procedure is feasible on a larger scale. The carbohydrate composition of various grains, seaweeds, and marine algæ continues to receive attention. Statistical studies have included standardization of laboratory techniques for detecting slight variations in taste of food products.

In the Maritime Regional Laboratory at Halifax the scientific interests of the staff have broadened considerably during the year. A pilot plant dryer has been designed and constructed to permit studies of optimum conditions for drying such materials as seaweeds. The nutritional value of dried seaweed meals compared favourably with casein; dulce and rockweed meals were superior to gelatin or soybean in rate of regeneration of liver protein. A method has been developed to determine the presence of carrageenin in seaweeds. The cause of pitch formation in pulp and paper mills is under study. Other subjects of investigation are the quality of hard cider, the cause of flakiness of cod fillets, quality changes in stored potatoes, and various aspects of metallurgical reactions at high temperatures as encountered in manufacturing iron and steel.

The Prairie Regional Laboratory is continuing work on the utilization of agricultural materials. A method for producing lysine by fermentation is being investigated; if this is successful, it should increase the use of wheat for animal feeding. A toxic factor in rapeseed meal is being studied to determine the cause and to find a method of overcoming this defect.

The current trend toward the production of hardboard, or 'synthetic lumber', as a major building material of the future, has resulted in emphasis being shifted from the field of insulating or fibre board to hardboard. In studies on water resistance in fibre boards it has been found that most pulps can be sized by treatment with metallic salts at the appropriate degree of acidity. The metallic salts react with native constituents in straw or wood pulps. A patent for this process has been applied for.

In a study of elevator dust explosions it was found that the most important factor was the size of the dust particles. Only those fractions that pass through a 150 mesh screen are potentially dangerous for initiation of explosions. Dust separation and removal systems are being designed and installed by commercial equipment engineers.

Other projects include studies on the properties and mechanism of reactions of starches, sugars, proteins, fats and oils, and other plant constituents; on the physiology, biochemistry, and enzymology of living plants and micro-organisms; on the mechanism of fermentation processes; and on the design and operation of fermentation equipment.

In the *Division of Applied Chemistry* special attention has been given to corrosion in automatic cooling systems by ethylene glycol solutions, the corrosion of iron in aqueous solutions, and various means of reducing these effects. In the textile section studies on laundering, dry cleaning, and preservation are being emphasized, this work leading to a much better understanding of detergent action.

A major function of the Division is the development of chemical processes that will utilize Canada's natural resources. During the year, petroleum products have received the greatest attention, most of it on a pilot plant scale.

A new technique has been developed for contacting solids and fluids, a method showing considerable promise for industrial use. In the rubber laboratory researches have been directed towards the use of lignin as a reinforcing agent for rubber. Improvements have been made in an adhesive based on cyclized rubber and suitable for bonding rubber to metal and an adhesive formulation suitable for use at elevated temperatures has been developed.

The *Division of Pure Chemistry* is concerned with investigations in the major chemical fields—organic, physical, inorganic and colloid. Most of the work is fundamental—trying to find out why certain chemical reactions behave as they do, and determining the ultimate spatial structure of unknown compounds.

The *Division of Applied Physics* divides its effort between research on problems directly related to the development of Canada, and the establishment and maintenance of fundamental physical standards that form the basis of so many industrial operations. The first category includes a close and successful co-operative program with the Canadian Pulp and Paper Association on noise abatement in the paper industry; the provision of a common dosage standard for X-radiation at cancer clinics throughout Canada, and a significant contribution to Canadian mapping methods.

Activity in the standards field has led to the completion of a mutual inductance on which the Canadian ohm will be based; a highly precise temperature scale through most of the international range; the reproduction of the standard of brightness through the brightness of melting platinum; and a considerable contribution to the preliminary work necessary for basing the metre on a wavelength of light instead of on a physical prototype.

In the *Division of Pure Physics*, work is being pursued on various fundamental problems that do not have an immediate application, but they advance the frontiers of knowledge and supply the basis for further progress in the applied fields. Work is under way on cosmic rays, solid state physics, spectroscopy, X-ray diffraction, and theoretical physics. Important contributions have been made in each of these fields.

In the *Division of Medical Research*, whose only function is to make grants, eight senior and sixteen ordinary research Fellowships were granted in 1954. Ten of these were first awards. Since 1946, 244 Fellowships have been taken up by 148 graduates. One-half of these Fellows are now fully trained and of these, 70 are known to be attached to faculties of medicine in Canadian universities, engaged in teaching. Twenty-six have full time appointments in which they direct or actively participate in research. The Fellowship program has borne good fruit.

Throughout the year, the *Division of Building Research* steadily developed its service to the construction industry of Canada. Laboratory research, as might be expected, covers the whole range of building materials from bricks and mortar to modern plastics. A project of unusual interest has been the continuation of the joint study of conductive flooring for hospital operating rooms. Co-operation with the Central Mortgage and Housing Corporation included not only service with unusual technical operating problems, but steady progress towards improved technical housing standards and designs, consistent with every practicable reduction in true costs.

A completely revised National Building Code was issued in June 1954 after more than four years of work by over 200 voluntary committee workers operating under the guidance of the Associate Committee on the National Building Code. All technical and secretarial work was done in the Division.

Field activities include studies on fires, soil problems on the new railway from Sept-Îles to the Quebec-Labrador iron ore deposits, soil freezing problems in most of the provinces, and permafrost research in connection with the new site for the town of Aklavik. In co-operation with the Meteorological Division of the Department of Transport the first Climatological Atlas of Canada was made available during 1954.

Most of the activities of the *Division of Mechanical Engineering* were again devoted to defence projects, but work in hydraulics, resulting primarily from the St. Lawrence Seaway development, increased sharply and the volume of work of interest to industry showed a steady growth. The demand for wind tunnel testing showed a significant increase during the year. In addition to development tests of new military aircraft, the low speed tunnel has also been used for investigating wind flow over the open bridge of a naval vessel, the effect of ice on the characteristics of a thin delta wing, and the stability of projectiles. The supersonic tunnels have been engaged on studies of different aircraft configurations aimed at reducing the drag in trimmed flight at supersonic speed.

The first flight of a reheat system in Canada was made during the year. In bench tests a part of the reheat fuel is injected before the turbine, thus cooling the turbine blades in addition to boosting the thrust. Problems include ignition, flame stabilization and screeching combustion.

In icing research a fully automatic system of electrothermal de-icing of aircraft has been developed. Current work is concerned with the icing of helicopters.

In the *Division of Radio and Electrical Engineering*, approximately one-half of the work in 1954-55 consisted of defence projects. The remainder of the program included problems in electrical engineering, electronics and radio physics, with emphasis on applications of interest to Canadian industry.

Work during the year included a microwave position-fixing system, remote control of fog alarm stations, merchant marine radar, assistance to the Canadian Wildlife Service, high voltage including the problem of radio interference from extra high voltage transmission lines, electronic detection of flaws in paper, the explosion hazard of static electricity generated by grain handling, transistors, vacuum tubes, microwave communication far beyond the horizon, antennas, radio astronomy, electronic music, high frequency standards, a forestry communication system, and electromedical research.

The administration of the foregoing laboratories has been placed on an entirely separate basis and exists only to serve the scientist. These service groups include the *Division of Administration* plus Central Workshops, the Library, the Patents Section, Canadian Patents and Development Limited (*see p. 117*), Plant Engineering Services, Public Relations Branch, Liaison Offices at Ottawa, London and Washington, and a Technical Information Service which assists Canadian industry by furnishing scientific and technical data on industrial problems.

Section 2.—Research in the Atomic Field*

Atomic Energy of Canada Limited (AECL), a government owned Crown company, operates Canada's main atomic energy centre near the town of Chalk River, Ont., 130 miles west-northwest of Ottawa. The company has a seven man Board of Directors that includes representatives of private industry, public and private power companies, and the universities, and is engaged in four main activities as follows: (1) the development of technology for economic atomic power; (2) fundamental scientific research in the atomic energy field; (3) operation of nuclear reactors and separation of nuclear fuels (plutonium and uranium-233); (4) production of radioactive isotopes and associated equipment, such as Cobalt-60 Beam Therapy Units for the treatment of cancer.

* Prepared by Clyde Kennedy, Public Relations Officer, Atomic Energy of Canada Limited, Chalk River, Ont.

There are three reactors at the Chalk River Project of AECL—ZEEP (Zero Energy Experimental Pile), NRX (National Research X-metal or X-perimental) and NRU (National Research Universal)—and the company is collaborating with the Canadian General Electric Company Limited and The Hydro-Electric Power Commission of Ontario (HEPC) in the building of an experimental atomic power station, to be known as NPD (Nuclear Power Demonstration), near Des Joachims, 12 miles up the Ottawa River from the Chalk River plant. All of these reactors use heavy water for a moderator.

The decision to build NPD followed a power reactor feasibility study, started late in 1953 and carried out by engineers of AECL, HEPC, the Montreal Engineering Company Limited, the Shawinigan Water Power Company, the British Columbia Electric Company Limited, and the Brazilian Traction, Light and Power Company Limited. The power reactor is expected to generate 20,000 kw. of electricity.

While the building of NPD proceeds, a preliminary design study for a larger atomic power station with a projected electrical output of 100,000 kw. is being carried out at Chalk River, and engineers of several utilities across Canada are participating in the study.

Nuclear Power Role Forecast.—A forecast of the likely role of nuclear power in Canada was presented to the International Conference on the Peaceful Uses of Atomic Energy, Geneva, Aug. 8 to 20, 1955 in a paper* by Dr. W. B. Lewis and Dr. John Davis. These authorities forecast that by 1980 nuclear power plants may account for as much as 10 p.c. to 15 p.c. of the total electrical generating capacity in Canada. Although by that year water power will still be the principal source of electrical energy in this country, thermal generation will have risen from the relatively minor proportions of a few years ago to at least 30 p.c. of installed capacity. One-third to one-half of this thermal generation will be by nuclear plants despite the fact that Canada has large reserves of petroleum and natural gas and an abundance of coal that can be strip mined in certain regions.

Costs of conventionally produced electrical power are expected to rise despite significant improvements in long distance transmission and further advances in the efficiency of central electric stations burning conventional fuels. At the least, nuclear energy will set a ceiling on power costs in power-short regions of the country and will reduce the wide discrepancies in the price of electricity which now exist between one Canadian power consuming region and another, for the most attractive feature of nuclear power is its low fuel costs. These may make the economics of future atomic energy plants resemble more closely those of Canada's existing hydroelectric installations rather than those of steam plants burning coal or petroleum.

Nuclear energy will not be competitive anywhere in Canada until its price has fallen below 8 mills per kilowatt-hour. At 7 mills it might be able to compete with hydro-electric or with coal fired steam power but demands for nuclear power at this price would be limited. The highly developed power-consuming region of southern Ontario, where imported coal will soon be the only alternative to hydro power, could absorb large blocks of power at 6 mills without creating even a temporary surplus of generating capacity. Various engineering and economic studies under way at Chalk River suggest that nuclear plants capable of such performance will be under construction within the next 10 years.

The forecasters point out that the average annual rate of growth of total demand for electrical power in Canada is now about 6 p.c. a year and consumption can be expected to increase threefold to fourfold or more during the next 25 years. Furthermore domestic supplies of oil and natural gas are emerging as deterrents to the use of electrical power for steam generating and other heating purposes. Also if inexpensive nuclear power becomes available in from 20 to 30 years time, a large part of Canada's established demand for new increase in power would disappear, for the tendency would then be to locate certain heavy power-using industries, such as the refining of aluminum, close to the principal industrial

* W. B. Lewis, Vice-President, Research and Development, Atomic Energy of Canada Limited, Chalk River, Ont., and J. Davis, Economics Branch, Department of Trade and Commerce, Ottawa, Ont.: *An Economic Forecast of the Role of Nuclear Power in Canada.*

markets of the world. An increasing amount of power will be required however by the need to increase productivity to meet the demands of Canada's increasing population. Consequently, though the annual rate of growth of consumption may decline from its present level of 6 p.c. to about 4.5 p.c. in the 1970's, annual installations varying between 1,000,000 kw. and 2,000,000 kw. will still be required throughout the 1960's and 1970's. If this prospective revolution in the generation of thermal power from nuclear energy takes place it will have important effects on many sectors of Canada's economy, notably on the chemical industry and capital investment and construction requirements. Though the supply of uranium for nuclear fuel can be met from existing sources of supply the need for heavy water for Canada's nuclear plants, according to the forecast developments, would need to be several times present production capacity.

If by 1981 there is an installed nuclear power station capacity of from 4,000,000 kw. to 7,000,000 kw. then the material needs might be: an inventory of 2,600 to 4,600 tons of natural uranium, an annual make-up of 180 to 200 tons of natural uranium (to replace the uranium burned), and an inventory of from 4,000 to 7,000 tons of heavy water. Cost of producing this natural uranium for domestic consumption apparently would run into tens of millions of dollars a year. Even if new methods are discovered for the manufacture of heavy water at appreciably lower costs, expenditures on this might reach an annual level 25 years hence of from \$40,000,000 to \$50,000,000. Outstripping these expenditures would be the outlays on generating plant, machinery and equipment—capital investments that might reach into the \$100,000,000 a year category by 1980.

These are large figures but they are not far out of line with the performance of Canada's electric power industry in recent years. The annual outlay by utilities for generating plant and equipment is at present about \$250,000,000. Twenty years from now their annual capital investments on facilities of all types may be closer to the \$500,000,000 mark. Construction, equipment and supply of a number of base-load-type nuclear power plants, costing around \$150,000,000 annually is therefore unlikely to be impeded by a lack of financial resources, according to the Geneva report.

Advisory Committee on Atomic Power Development.—To ensure that the various publicly and privately owned utilities are kept fully informed of the progress being made, the Government set up in 1954 an Advisory Committee on Atomic Power Development on which the various power producers throughout the country are represented. The committee, which meets periodically at Chalk River, studies the research results obtained at that centre, receives complete information on the NPD station, and assists in evaluating the economic importance of atomic power in various regions of the country.

In 1955 an "industrial assistance office" was set up at Chalk River to create as wide as possible an interest on the part of private companies in the possible applications of atomic energy in general and of atomic power in particular.

Development of Canada's Atomic Energy Program.—As at Mar. 31, 1956 the approximate total expenditure on the Canadian atomic energy program was \$160,000,000. An estimated further expenditure of about \$100,000,000 will be required to carry out the program planned for the next four years.

The program had its beginning in 1942 when it was decided to set up a Canadian-United Kingdom project in Canada, under the administrative control of the National Research Council of Canada. British, French and other European scientists doing nuclear research moved to North America (mainly to the United States and Canada) early in World War II to work on an atomic weapon—the possibility of which became evident when O. Hahn and S. Strassman in Berlin, Germany, announced the first recognition of nuclear fission in 1939.

The United States project used the more readily available graphite to moderate its reactors and the project in Canada was assigned the task of trying heavy water as a moderator so that all possible routes to the production of plutonium for bombs would be tried.

In 1944 the Canadian-United Kingdom team moved from the University of Montreal, where preliminary studies had been carried out, to the site which was established on the Ottawa River, about five miles from the town of Chalk River.

On September 5, 1945 ZEEP went into operation. It operated at a mere 10 watts but it made possible a study of the value of a heavy water natural uranium system and it has continued to be useful for studies of fuel rod arrangements. Two years later on July 22, 1947 the NRX reactor went into operation. It was then, and so remained for several years, the most powerful research reactor in the world. The NRX reactor still plays a leading role by (1) making possible important experiments relating to the development of atomic power, (2) enabling the fundamental properties of atoms and nuclei to be determined, and (3) producing radioactive isotopes of high specific activity (i.e., the relation of the amount of radiation to a given weight of material). Both the United States and the United Kingdom are, like AECL, using NRX for atomic power studies. Since its reconstruction following a breakdown on Dec. 12, 1952 this reactor has operated at a power output of 40,000 kw. (a measure of the heat produced)—one-third higher power than before the breakdown.

In 1946 the United Kingdom established its own atomic energy program and in the same year the Atomic Energy Control Act was passed in Canada "to make provision for the control and supervision of the development, application and use of atomic energy." This Act created the Atomic Energy Control Board which was given three main powers: (1) to conduct research and production operations, either directly or through other agencies reporting to it; (2) to regulate the production and application of materials relating to atomic energy, particularly fissionable materials; and (3) to make and administer security regulations required by the Canadian atomic energy program.

The Chalk River project was operated on behalf of the Atomic Energy Control Board by the National Research Council until 1952 when a Crown corporation, Atomic Energy of Canada Limited, was established to operate the project on behalf of the Board. A 1954 amendment to the Atomic Energy Control Act requires AECL to report directly to the Cabinet Minister who is Chairman of the Committee of the Privy Council on Scientific and Industrial Research. The Atomic Energy Control Board continues to report to the same Minister and its functions remain unchanged.

The next stage in the Canadian program, following the creation of a separate United Kingdom program, consisted mainly of carrying on fundamental research at Chalk River, using the facilities of the two natural uranium heavy-water reactors. The need for a source of higher neutron flux for fundamental research and for engineering studies resulted in the decision in 1951 to build another natural uranium heavy-water reactor known as NRU. This reactor is expected to have a neutron flux four times that of NRX and a heat output of 200,000 kw., five times that of NRX. The NRU reactor has three main functions: (1) the production of significant quantities of plutonium; (2) the provision of advanced experimental facilities for fundamental research and for the testing of power station fuel-coolant systems; and (3) the production of radioactive isotopes of high specific activity, particularly Cobalt-60 which is used in the treatment of cancer.

The Chalk River Project.—The principal function of this Project is to carry out fundamental research and preliminary engineering development. The Project provides the data which utilities and manufacturers need for a nuclear power program. The work is carried out by an Administration and Operations group and a Research and Development group. The former is responsible for general administration, the operation of the nuclear reactors and associated chemical process plants, the construction and maintenance of buildings, the provision of steam and auxiliary power for the project, and the correlation of the experience of the operating branches with the results obtained by the research branches to produce engineering information for major projects handled by outside organizations.

The activities of the Research and Development group which cover a wide field of fundamental and applied research in physics, chemistry, metallurgy, and biology, are carried out by four divisions: Reactor Research and Development, Chemistry and

Metallurgy, Physics, Biology. These divisions conduct short term and long term investigations—the short term to provide the basic information required to design and operate the first Canadian power reactors. A wide variety of possible reactor systems make it necessary to conduct extensive investigations, both mathematical and experimental, to determine which are likely to be the most economic and efficient. The longer term work, though mainly the responsibility of physicists and biologists, also involves the chemistry of substances which have become important (or have come into existence) only since the development of atomic energy.

The Reactor Research and Development Division is engaged in experiments and calculations required for the design of nuclear reactors for atomic power stations. Control systems for such plants and for the Chalk River reactors are being studied. The ZEEP reactor has been in constant use in determining the reactive efficiency and other characteristics of various fuel element arrangements. Many fuel samples have been tested in the NRX reactor under conditions simulating those which will exist in power plants. These experiments are providing essential information on the behaviour and suitability of different physical forms of the fuel, or different kinds of cladding to prevent corrosion of the fuel, and of heat transfer characteristics.

The Chemistry and Metallurgy Division includes a number of research groups which are making a co-ordinated attack on the problems of the preparation and processing of reactor fuel. The division develops fuel elements for the NRX and NRU reactors and for power reactors. Much of the work is being done in collaboration with the Department of Mines and Technical Surveys.

In the Physics Division work has continued on the study of nuclear structure, using the experimental facilities of the NRX reactor and the particle accelerators, such as the 3,000,000 electron volt Van de Graaff Generator. To investigate atomic disintegrations produced by very energetic protons an apparatus has been assembled in a mobile laboratory and located at the Inter-University High Altitude Laboratory at Echo Lake, Colorado, U.S.A., where the proton component of cosmic rays is some ten times as frequent as at sea level.

The activities of the Biology Division include the control of radiation hazards, the development of decontamination methods, the study of uses of radioactive isotopes in biological research, and the investigation of the effects of radiation on living organisms.

Canada pioneered in the production of radioactive isotopes and the Chalk River project now produces a wide variety of isotopes for use in industry, agriculture and medicine. The high flux of NRX enabled AECL to produce relatively large quantities of Cobalt-60, with a high specific activity, for use in cancer therapy units. The combined production of NRX and NRU will be required to satisfy the demand from many countries for Canadian units.

The marketing of radioactive isotopes and associated equipment is handled by the Commercial Products Division of AECL with headquarters in Ottawa and about 1,200 shipments of various products were made during 1955. Cobalt-60 Beam Therapy Units have been installed in hospitals and other treatment centres in Canada, the United States, the United Kingdom, Switzerland, France, Italy and Brazil.

Section 3.—Other Scientific and Industrial Research Facilities

Aside from the work of the National Research Council and Atomic Energy of Canada Limited, Canadian research is carried on by various federal agencies, provincial organizations, universities and industries. Several provinces in Canada have established Provincial Research Councils to stimulate and support research on problems having special provincial significance. The universities of course form an extremely important part of the Canadian pattern of research. Much of their work is along fundamental lines but practical problems are not neglected, especially those of regional interest.

All three types of institutions—federal, provincial and university organizations—have an interest in problems of industrial significance: this is part of the current Canadian pattern of research. Though many Canadian industries now possess research facilities—some of them quite extensive—the main bulk of industrial research to date has been done under government auspices.

Thus the unique problems of the country, particularly its large area coupled with a small population, have led to a typically Canadian organization of research, of which a very strong associate committee system is perhaps the most distinctive feature.

Federal Institutions.—Although research by industrial concerns has been slow to develop in Canada, government research has expanded rapidly, at first because of the need for speeding up the production of raw materials, which were for many years the basis of Canada's export trade, and secondly because of the more recent interest in the processing of these raw materials and because of the necessity to meet the needs of national defence. Federal institutions involved in research include the Departments of Agriculture, Fisheries, Mines and Technical Surveys, National Defence, National Health and Welfare, Northern Affairs and National Resources, and Trade and Commerce; the National Research Council; and Crown corporations such as Atomic Energy of Canada Limited. A system of committees, with nationwide representation, eliminates unnecessary duplication of work from these national research organizations.

The scientific work of the Department of Agriculture is described at p. 395 of this volume, the work of the Defence Research Board in Chapter XXVIII (*see Index*), specialized work in scientific forest research in Chapter X, scientific services concerned with Canada's mineral resources conducted by the Department of Mines and Technical Surveys in Chapter XI, investigational work of the Department of Fisheries in Chapter XIII, the work of the National Research Council at pp. 371-375 and atomic research at pp. 375-379. The activities of the other federal institutions engaged in research are described briefly in the following paragraphs.

Department of National Health and Welfare.—The Department of National Health and Welfare supports both intramural and extramural research programs. Within the Department, the Food and Drug Directorate, Laboratory of Hygiene, Occupational Health Laboratory and various clinical services are engaged in scientific research in their respective fields. Special studies and surveys are conducted in social and medical economics by the Research Division. The extramural program consists of grants-in-aid of medical research at universities, hospitals and other research institutions from funds under the National Health Program. The Public Health Research Grant provides over \$500,000 per annum with allocations from the Mental Health, General Public Health, Tuberculosis, Child and Maternal Health and Crippled Children's Grants making up approximately \$1,250,000 additional funds. To co-ordinate medical research programs, meetings are held by representatives of the National Research Council, Defence Research Board, Department of Veterans Affairs, National Cancer Institute and the Research Advisory Committee of the Department of National Health and Welfare. These have provided for reasonably clear definition of the field of interest of each organization and have minimized uneconomical overlapping.

Department of Trade and Commerce.—Rapid development of grain production in Western Canada led to the passing, in 1912, of the Canada Grain Act. This Act is administered by a Board of Grain Commissioners responsible for control of the transportation, weighing, grading and warehousing of Canadian grain. The Board soon encountered problems that required scientific study and a Grain Research Laboratory was established at Winnipeg in 1913.

The Grain Research Laboratory is the main centre of research on the chemistry of Canadian grains. It is well staffed and equipped to provide the service required to help maintain and expand domestic and foreign markets for all types of grain. Each year the Laboratory provides certain information required by the Board for administering the

Canada Grain Act. The Laboratory collects and tests samples of various crops to obtain information on the current quality of all grains shipped during the crop year. Fundamental research is also undertaken; the program is directed towards increased understanding of what constitutes quality in cereal grains and towards improving the methods of assessing quality.

Canadian Patents and Development Limited.—Canadian Patents and Development Limited is a Crown corporation established in 1948. The primary purpose of the company is to make available to industry, through licensing arrangements, new processes and improvements in processes developed by the scientific workers of the National Research Council. The services of the company have also been made available to government departments and other agencies, and have been extended to Canadian universities. The company arranges to obtain patents of inventions originating in these agencies and handles all licensing matters for them. Any profits that the company may derive from its licensing arrangements are used for further research and development.

Provincial Organizations.—The fact that only a few provincial research organizations exist does not indicate a lack of interest in research by the provinces. Most provincial governments have university laboratories to consult, particularly about local industrial and agricultural problems. Agriculture is particularly well covered because of its great importance as an export industry; the network of Federal Department of Agriculture laboratories and Experimental Stations, together with agricultural colleges and provincial research councils, provides this industry with a very well developed research service.

Nova Scotia Research Foundation.—This body was created by the Government of Nova Scotia in 1946 to give its people additional scientific and technical assistance in finding new and better ways to utilize the resources of the forest, the sea, the farm, the mine and the process industries. To this end it seeks to correlate and further scientific work on local problems and available resources. It assists universities, colleges, research groups, industries, provincial and federal departments and individuals by loans of equipment, grants, scholarships, laboratory and summer assistants, library, cartographic, photogrammetric and translation services, and technical information. It has supported or collaborated in work on breeding new varieties of plants and root nodule bacteria; on antibiotics, poultry, blueberry culture, coal burning equipment, the constitution and underground gasification of coal, the non-destructive testing of mine equipment, the utilization of anhydrite, diatomite, fish waste, gypsum, seaweed, slag, slab wood and fertilizing materials. It has conducted geophysical, geological, seaweed, forest aphidae and forest ecology surveys and assisted studies on the nutrient cycles of lakes, on X-ray crystallography, and on pressures in underground strata. During the summer of 1955 87 people were engaged on 25 projects.

Saskatchewan Research Council.—The Saskatchewan Research Council was established in 1947 for "research and investigation in the physical sciences as they affect the economy of the Province of Saskatchewan, and such particular matters as may be brought to its attention from time to time by the Lieutenant-Governor in Council". The term "physical sciences" is given a broad interpretation to include biological sciences, agriculture and engineering. The Council encourages both basic and applied scientific research relating to the resources and economy of Saskatchewan, and works in close co-operation with government departments and the University of Saskatchewan. A technical information service is conducted with the assistance of the National Research Council of Canada.

Among the current projects supported by the Council are: fundamental studies of lignin and related compounds, beneficiation of uranium ores, application of carbon-14 dating, utilization of wheat starch, cultivation of safflower crop, studies in foundation research, preservation of foods by freezing, winter lubrication, movement of mineral components in podsollic soils, inheritance of coumarin in sweet clover, contamination of milk with antibiotics, biometric studies on Saskatchewan lakes, and geological and archæological research. The Council also supports graduate research scholarships.

Research Council of Alberta.—The Province of Alberta set up a Scientific and Industrial Research Council in 1921, the promotion of mineral development within the Province being the chief purpose leading to its establishment. The Council operates under an Act somewhat similar to that setting up the National Research Council and is financed by Provincial Government appropriations. The present program is directed to the application of basic and applied science toward the development of the natural resources of the Province. Investigations include studies on coal, the Athabasca oil sands, natural gas, geological research and surveys, soil surveys and irrigation research. The Council maintains a gasoline and oil testing laboratory and has a group of industrial engineers to provide scientific information to developing industry. The Council laboratories are located at the University of Alberta and include a new \$750,000 research laboratory and pilot plant which was provided by the Province of Alberta in 1955. The laboratories work in co-operation with the scientific departments of the University and the operations of the organization are controlled by a council of ten individuals representative of government, the University and industry. The various research projects are under the immediate supervision of advisory committees and the chairmen of these committees form the Technical Advisory Committee of the Council, the body responsible for the integration and operation of the scientific aspects of the program.

British Columbia Research Council.—The British Columbia Research Council, under the sponsorship of the B.C. Department of Trade and Industry, provides a scientific and engineering staff with laboratories at Vancouver, to help British Columbia industries solve their technical problems. Its objective is to enable even the smallest firms to make use of modern technical knowledge and research to improve their competitive position in Canadian and world markets. The Council provides three classes of service: (1) a free information service in collaboration with the National Research Council; (2) assistance to specific firms at cost where information cannot be supplied from existing knowledge; and (3) at the Council's expense, research on problems of general value to the industrial development of the Province.

The Ontario Research Foundation.—The Ontario Research Foundation was established in 1928, and is financed by an endowment fund composed of subscriptions from manufacturers, corporations, private individuals, and a grant from the Provincial Government on a dollar-for-dollar basis with the other contributions. The Foundation carries on research to assist agriculture and industry in developing the natural resources of the Province. A study has been made of the physiography and climate of southern Ontario and also of the parasites found in wildlife in this Province. Many investigations have been undertaken in the industrial field and the Foundation is well equipped to work in metallurgy, textiles, chemistry and biochemistry. The services of the Foundation are at the disposal of industry on a fee basis, and consultative services, testing, short trial studies and long term investigations have been undertaken for hundreds of firms. The work has resulted in better products and in more efficient processing. The Foundation administers a grant from the Provincial Government to support postgraduate scholarships and scientific research in the universities of Ontario.

The Banting Research Foundation.—The Banting Research Foundation supports the work of the Banting and Best Chair of Medical Research in the University of Toronto and aids medical research throughout Canada by making grants-in-aid to those who submit problems of sufficient medical interest to the Board of Trustees. The Board meets and makes grants generally three times a year, around June 1, Oct. 1 and Feb. 1. Five members of the Board of Trustees are appointed by the Board of Governors of the University of Toronto and the Alumni Association of the University of Toronto, and these five members appoint two other Trustees, then the seven members appoint an eighth Trustee.

The Rockefeller Foundation.—The Canadian activities of the Rockefeller Foundation include appropriations to various Canadian universities, institutions and organizations for research in certain limited fields in the natural and social sciences, in the humanities and in medicine and public health, and the financing of postdoctorate fellowships to individual Canadians for work in fields related to the Foundation's general program. Under the public health program aid is given for teaching in public health and nursing.

Medical Research.*—Support for medical research is provided by the Federal and Provincial Governments, by private foundations or corporations, by voluntary agencies which raise money by public subscription, and by universities and hospitals. From these sources there are available (a) research fellowships for training, (b) grants-in-aid for assistance in problems of a fundamental or clinical nature, (c) salaries for trained personnel, and (d) the necessary capital and running expenses for investigations which are of particular interest to government, hospital or pharmaceutical house.

The Department of National Health and the Department of National Defence maintain establishments in which research is done in well-equipped laboratories with highly trained personnel. The Department of Veterans Affairs encourages its staff to do research in its own hospitals; much of this concerns chronic illness, such as arthritis, atherosclerosis, metabolic and nutritional derangements.

Most of the fundamental medical problems are studied in medical schools through the system of grants-in-aid. Funds from the Federal Treasury are provided through the National Research Council, the Defence Research Board, and the Department of National Health. The National Research Council supports mainly research in the basic medical sciences—anatomy, physiology, biochemistry, pharmacology, bacteriology, pathology, and experimental surgery—but 20 p.c. of its grants are for clinical investigations. The Defence Research Board makes grants for studies in which it is particularly interested, such as shock, the preservation of blood and the use of blood substitutes, the effects of low temperatures and of radiation, etc. The Department of National Health and Welfare provides funds for research, available on the recommendation of provincial departments of health, in the following fields: public health research, tuberculosis control, child and maternal health, mental health, and general public health. It also gives assistance to the Canadian Arthritis and Rheumatism Society (which obtains its other support by public subscription) and to the Ontario Heart Foundation (which derives its other resources from the Ontario Provincial Government). In addition the Department of National Health and Welfare makes available to the provinces cancer grants, out of which the Provinces may supplement the funds for research which the National Cancer Institute receives from the Canadian Cancer Society. Thus the Department of National Health and Welfare is the Canadian agency which gives the greatest support to extramural research in medicine; its interest is primarily in those problems which have a direct bearing on the health of the nation rather than in fundamental research.

Universities receive funds for research also from provincial branches of the Canadian Cancer Society and from such government foundations as the Ontario Cancer Treatment and Research Foundation and the Alcoholism Research Foundation, from fraternal societies and clubs such as the Rotary Club, from the J. P. Bickell Foundation, the Atkinson Foundation, the Canadian Life Insurance Officers Association, the Muscular Dystrophy Associations of Canada, the Banting Research Foundation, the Multiple Sclerosis Society, pharmaceutical companies, etc.

With help from these diverse sources, active research programs are in progress in every one of the twelve Canadian medical schools. In certain of these there are special departments devoted to research, e.g., the Departments of Medical Research at the University of Toronto and at the University of Western Ontario, and the Department of Investigative Medicine at McGill University, but these departments contain graduate

* Prepared by Dr. G. H. Ettinger, Assistant Director, Division of Medical Research, National Research Council, Ottawa.

students who work to higher degrees. With few exceptions departments designed for undergraduate instruction are active in research; a majority provide graduate instruction as well, in which the students are maintained on research fellowships or grants.

Notable contributions to medical knowledge are made every year by Canadian scientists, but space permits the mention of only a few fields: studies on epilepsy at the Montreal Neurological Institute; functions and interrelations of areas in the brain and brain stem and studies in neurophysiology and neurochemistry at McGill University, the University of Ottawa and the University of Western Ontario; endocrine and metabolic studies at McGill University and the Universities of Montreal, Toronto, Western Ontario and Manitoba; anticoagulants at the University of Saskatchewan; atherosclerosis and hypertension at McGill and Queen's Universities and the Universities of Western Ontario and British Columbia; hypothermia at the University of Toronto; surgery of heart and blood-vessels at McGill University and the Universities of Toronto and Montreal, and the Montreal Institute of Cardiology; tuberculosis at Dalhousie University, the Institute of Microbiology, Montreal, and the Connaught Medical Research Laboratories, Toronto; mental health studies at the Department of Health, Nova Scotia, the Allan Memorial Institute at McGill University, the University of Toronto, Regina General Hospital and the University of British Columbia; virology, including poliomyelitis, at the Institute of Microbiology, Montreal, the Sick Children's Hospital, Toronto, and the Connaught Medical Research Laboratories; bacteriology, immunity and hypersensitivity at McGill University, the University of Montreal, Queen's University, the University of Western Ontario and the University of Toronto; cancer in all the medical schools.

At present there are more than 4,300 students enrolled in postgraduate courses in Canadian universities, not counting those in theology. Most of these receive some training in research, more than half of them in one or other of the fields of science.

Some idea of the relative importance of pure and applied science can be obtained from a study of problems undertaken by graduate students. In 1952, 64 p.c. of candidates selected problems in pure and applied science in the ratio of two to one, respectively; the remaining 36 p.c. were about evenly divided between the humanities and social sciences. Emphasis has always been largely on fundamental research reflecting a desire to know more about natural phenomena but with the realization that practical applications may follow. A wide variety of work is at present being undertaken in pure research in fields as divergent as pure mathematics, nuclear physics, electrical communication, isotopes, the cobalt bomb, and the functioning of glands and the brain, to mention but a few.

At the same time practical applications of research are being undertaken in most of these fields and many others. Practical research in the universities is not only influenced by the industrial life of the people around it but by problems associated with world and local conditions such as world wars, economic depressions and increased exploration of natural resources. It includes problems of general interest in such fields as medical research, community planning, industrial mining, meteorology, industrial research and others too numerous to mention; and local problems related to such industries as fishing on the coasts, mining in central Canada and agriculture in the Prairie Provinces. At present the greatest emphasis is found on primary agriculture, industry, mines, lands and forests and atomic energy.

Most of the research now being undertaken by the universities has been made possible through grants, scholarships and fellowships from the federal and provincial governments, foundations, industrial organizations and individuals. Some of these are available to university staff members, to complete specific projects; others are scholarships available to students who, by the terms of certain of the scholarships, must select a problem in a specified field such as pipeline problems, cellular chemistry, public health engineering or forest entomology.

A few units of the larger universities (medical laboratories for example) have paid their way through selling the products of their research. There is some indication that these will expand, as will concerted research undertaken by the university with other research organizations, business and industry, in such undertakings as continuing study of the atom, and installing and using electronic computers.

Connaught Medical Research Laboratories.—The Connaught Medical Research Laboratories, University of Toronto, were established for the advancement of preventive medicine and public health through research and through the preparation of biological and other products essential in prevention or treatment of certain diseases. The Laboratories render a medical public service to all the provinces of Canada and, to an extent, to countries abroad. This service was initiated when the preparation of diphtheria antitoxin was undertaken in the Department of Hygiene at the University in an effort to reduce the toll of deaths from diphtheria in Canada. At the same time the Department initiated investigations into this and other diseases. Since then, research activities have constantly expanded and today more than seventy studies are being conducted in the Laboratories.

The research program of the Laboratories concerns the broad field of preventive medicine. By including the study of certain animal diseases, particularly those which are transmissible to man, and through preparation of related products, the Laboratories are serving both the medical and veterinary professions.

The research projects are extensive and include studies of bacterial and virus diseases, investigations in immunology, epidemiology, physiology, biochemistry, and in other fields related to preventive medicine. These undertakings are maintained in part through the distribution of products, the furnishing of which constitutes an important public health service.

Important to the advancement of public health is the assistance rendered by the Laboratories in the postgraduate teaching of medical officers of health, nurses, dentists, veterinarians, and other professional personnel. From the inception of the Laboratories in 1914, members of the staff have been closely associated with postgraduate teaching in public health. In 1924, through the beneficence of the Rockefeller Foundation and with the co-operation of the Government of the Province of Ontario, the School of Hygiene was established. This provided greatly enlarged teaching facilities and also extended the participation of the Connaught Medical Research Laboratories in the work of training public health leaders.

On the University campus the College Division of the Connaught Medical Research Laboratories and the School of Hygiene share one building, permitting of joint use of research and laboratory facilities of the two institutions, and promoting a close and mutually advantageous relationship. Here also the production of insulin and other glandular products is undertaken.

On Spadina Crescent in Toronto, the Spadina Division of the Laboratories provides accommodation for much important work including the production of penicillin and research in the field of antibiotics. Additional facilities are provided near Toronto at the Dufferin Division and include a 145 acre farm property with modern laboratory buildings and quarters for animals.

Through the organization of the Western Division in the University of British Columbia the Connaught Medical Research Laboratories have shared in the development of an important program of research in preventive medicine on the Pacific Coast.

Thus for over forty years the Connaught Medical Research Laboratories, with the co-operation of the medical profession and the official public health authorities, have contributed in steadily increasing measure to the advancement of research and public health in Canada.

Industrial Research.—The industrial research picture in Canada is changing very rapidly. In the past, industry in general was largely unaware of the value of research to its own development and to that of the country, partly because many Canadian companies were subsidiaries of companies in the United Kingdom and the United States and partly because small companies found it impossible to finance their own research. The problem was accentuated by the vast size of the country, the absence of concentration of similar industries and the proximity to the relatively large research facilities of the United States.

However the recent emergence of Canada as a highly industrialized society, its entrance into multitudinous fields of production, the rapid growth of many large nationwide industries, the serving of a discriminating domestic market and the meeting of competition from abroad have had the effect of making Canadian manufacturing establishments research conscious and many of the larger ones now possess powerful research organizations. The fields covered by some of these industries are outlined in the following paragraphs.*

Aluminium Laboratories Limited.—Aluminium Laboratories Limited undertakes both fundamental and applied research. Its research laboratories are located at Arvida, Que., Kingston, Ont., and the head offices of the Company, including divisions to conduct geological exploration, general engineering and patent affairs, are at Montreal, Que. The Company also has research facilities at Banbury, England.

The laboratory at Arvida is devoted largely to research problems up to and including the production of metallic aluminium. Activities are organized in the following categories: ore dressing, pilot plant, chemical, electrometallurgical, analytical and engineering. At Kingston, the research is metallurgical in nature and its divisions include: metallurgical engineering, physics and physical metallurgy, chemical metallurgy, technical publications and a development division to bridge the gap between fundamental scientific research and commercial applications.

Ayerst, McKenna and Harrison Limited.—This industry has extensive research and development laboratories and carries on original investigations in the fields of vitamins, hormones, antibiotics, and chemotherapeutic agents. The chemical laboratories are well provided with the latest tools (ultra violet, infra red, microanalysis, etc.) required in following the synthesis of new compounds and the Company also maintains a fully equipped pharmacological laboratory where these substances are evaluated for their therapeutic effects. Studies related to antibiotics and new antibacterial agents are carried on in the microbiological division.

Canada Packers Limited.—Canada Packers maintains a large research and development laboratory where several research groups work in the various fields of interest to the Company. The Meat Group works on new products and on the improvement of methods of production. The Oil Group performs the same work in the edible oil field. The Development Group is interested in developing and improving manufacturing processes. The Analysis Research Group develops accurate, reliable and fast methods of analysis for the Company's control laboratories across the country. The Biochemical and Organic Groups concern themselves with the development of byproducts such as hormones, enzymes, and fine chemicals of pharmaceutical and industrial interest. Extensive pilot plant facilities are also available.

Canadian Industries (1954) Limited.—This establishment maintains a large and diversified Central Research Laboratory equipped to carry on research in the fields covered by the eight operating divisions of the Company. The work is concerned with improvement of present processes and pioneering investigations in fields of existing interest to the Company, utilization of Canadian raw materials and meeting the needs of basic industries in Canada. The laboratories are particularly well supplied with physical equipment for determining chemical properties and identities of materials and in the use of newer techniques of examination.

Canadian Breweries Limited.—The Research Division of this Company operates laboratories that conduct all the control, chemical and bacteriological analysis for four large brewing companies. Fundamental and development research in the field of malting and brewing is also carried on for these four companies and two additional ones. In all, fifty employees—thirteen on research, ten on bacteriology and sixteen on chemical analysis—are employed.

* Prepared by the respective companies.

Canadian Chemical and Cellulose Company Limited.—This Company is developing an active and expanding research and development program through two of its operating subsidiaries, Columbia Cellulose Company, Limited and Canadian Chemical Company, Limited. The former operates a pulp mill at Prince Rupert, B.C., and is carrying out intensive cellulosic research in well equipped pilot plants and laboratories. The latter has a petrochemical plant at Edmonton. A Manager of Research and Development has recently been appointed and an intensive schedule of product and process development has been initiated.

The Consolidated Mining and Smelting Company of Canada Limited.—The Consolidated Mining and Smelting Company conducts research over a broad field embracing process studies in extractive metallurgy and chemical processes, fundamental studies in ore dressing, pyrometallurgy, electrochemistry, gas reactions, etc., and the investigation of the properties and utilization of non-ferrous metals. Recent developments include the commercial production of indium metal and the production of various metals in a state of extreme purity for research and special uses.

Dominion Rubber Company Limited.—The Dominion Rubber Company maintains a well equipped research laboratory which carries on basic research in the field of organic chemistry. Particular emphasis is given to the development of new and improved chemicals required by the rubber industry, including such items as accelerators, activators, antioxidants and the basic chemicals required for the production of synthetic resins.

Imperial Oil Limited.—The Research Department of Imperial Oil Limited in its laboratories at Sarnia, Ont., employs 120 chemists, technicians and clerks. It conducts fundamental studies on fuel composition, lubrication and the characteristics of asphalts and waxes. The scope of work also includes evolving new methods of refining, improving existing processes, developing new products and extending the application of established products as well as improving their quality. Features of the Department are the well-equipped engine and asphalt laboratories, the library facilities and the standardization laboratory that acts in a refereeing capacity and monitors the accuracy and precision of analytical procedures employed in the refinery laboratories across the country. At the present time the research laboratories are undergoing considerable expansion.

International Nickel Company of Canada Limited.—The International Nickel Company of Canada Limited carries out both fundamental and applied research in very efficient and well equipped laboratories operating at Copper Cliff, Ont. These laboratories are entirely devoted to research in the process fields but the Company, through its subsidiaries in the United States and the United Kingdom, carries out fundamental work in the physical metallurgy fields.

Maple Leaf Milling Company Limited.—The Research Department of the Maple Leaf Milling Company conducts both applied and fundamental research on materials and methods of flour milling, bread and cake baking and on prepared household mixes. Through its Products Control Branch, it also standardizes the quality control laboratories in its various mills throughout the country. Sanitation packaging control are also centred in the research laboratories.

Shawinigan Chemicals Limited.—For over forty years this Company has been actively engaged in fundamental and applied research. From its extensive and well equipped research laboratories at Shawinigan Falls, Que., have come pioneering developments in such widely diverse fields as electrometallurgy, organic chemicals, and synthetic plastics. Many of these developments form the basis of worldwide industries.

Polymer Corporation Limited.—This Corporation maintains one of the largest industrial research organizations in Canada. Its Research and Development Division is well equipped to study all phases of synthetic rubber development from the evolution of polymerization recipes and research on new raw materials, through studies of physical properties and

structure, to end-use development of new polymers. A recently completed modern research laboratory houses special laboratories for monomer research, polymerization and development work, electron microscopy, infra red spectrophotometry, micro-compounding and physical testing, and latex technology and applications. Other major facilities include rubber compounding and evaluation and technical service laboratories as well as several pilot plant units equipped for semi-commercial production and evaluation of new processes in both the free-radical and ionic systems.

Aside from the scientific research carried on by the expanding facilities of large individual companies, primarily for their own benefit, a great amount of industrial research continues to be done under the auspices of the federal and provincial governments, sometimes with the co-operation of universities. Two examples of this Canadian habit of co-operation between industries and other organizations may be cited: the Research Division of The Hydro-Electric Power Commission of Ontario, a provincial service, and the Pulp and Paper Research Institute of Canada, intimately associated with McGill University. The research work of these organizations is briefly described in the following sections.

The Hydro-Electric Power Commission of Ontario.—The Research Division of Ontario Hydro, with a present staff of 300, provides testing, investigation and research services for all phases of the utility's engineering design, construction work, and system operation and maintenance. The Division maintains a close liaison with other research organizations and power utilities, and staff members participate in the committee work of major technical societies and standardizing associations.

Electrical investigations pertain to improvements in equipment for generating, transmitting, distributing and utilizing power. Problems of electrical insulation, system disturbance recording, protection against lightning, energy metering and illumination are among those studied in such investigations. Attention is given to the performance and efficiency of power equipment, to improved measuring techniques, and to means of minimizing the hazards of electric shock.

Among the structural and mechanical topics studied are the following: metallic corrosion; stresses in structures; noise and vibration conditions; soil mechanics as related to foundations, roads, and earth dams and dykes; the physical properties of structural components and of numerous items such as conductor joints and line hardware; the mechanical performance and safety features of various types of machines; welding materials, techniques and applications; and a variety of problems associated with the design of concrete structures, the application of masonry materials, and the production, placement and quality control of all concrete used.

In addition to chemical analyses and tests performed on a wide range of materials and products purchased, chemical research work is conducted with regard to such subjects as wood preservation, plastics applications, protective coatings, brush and weed control, lubrication, liquid electrical insulants, water treatment, thermal insulation, and corrosion prevention.

Other studies contributory and supplementary to the main branches of work are carried on in the fields of physics, biology, meteorology, petrology and mathematics.

The Pulp and Paper Research Institute of Canada.—Because so much of the Canadian economy is dependent upon pulp and paper the need has long been recognized for research on cellulose chemistry and other technologies associated with the use of cellulose. In 1913 the Federal Government established the Forest Products Laboratories in Montreal. Its Pulp and Paper Division began to receive support from the pulp and paper industry in 1925 and soon after started to work closely with the Chemistry Department of McGill University. The present building on the University grounds was opened in 1929 to provide increased accommodation and facilities for its expanding activity in pulp and paper research.

In 1950 the Institute became an independent corporation under federal charter, administered by a Board of Directors consisting of appointees from McGill University, industry, and the Federal Department which is now Northern Affairs and National Resources.

This Corporation has taken over the building it occupied on the University grounds, together with all its equipment—the land remains University property and is lent to the Corporation. The Corporation has complete control of the operation, subject to the provision that work leading to degrees will be under the control of the appropriate faculties of the University.

McGill's entire Division of Industrial and Cellulose Chemistry and part of the Division of Physical Chemistry form integral parts of the Institute; to some degree the Institute has also become the bureau of standards for the pulp and paper industry.

Numerous contributions to the fundamental knowledge of the chemistry of cellulose and lignin, the chemical and mechanical pulping of wood, the behaviour of fibres in water, and the testing of pulp and paper have been made by Institute personnel. At present, studies in physical chemistry are being conducted mainly on the surface chemistry and swelling of cellulose, and the flocculation of suspensions of fibres, while research in organic chemistry is being carried out on the reactivity of cellulose, the properties and constitution of cellulose derivatives, and the chemistry of lignin and of bark. Much work is also being done on the various methods of producing chemical pulp.

University Research.*—Research undertaken in the universities is in three broad categories: research undertaken by the student under the guidance of a professor, or committee, to meet requirements for an advanced degree; that undertaken by the professor, which may be of a more or less continuous nature; and larger research projects undertaken co-operatively on a faculty or interfaculty basis in the university laboratories or in such special institutions as medical research laboratories, institutes of microbiology and hygiene, science service laboratories, and agriculture colleges.

Research has always been an integral part of university life at the graduate level and the amount undertaken decade by decade has more than kept pace with the growth of graduate schools. Research undertaken in the universities is limited largely by the number of staff members, time available, and equipment. Professors have busy schedules of lecturing, examining and assisting in academic administration. Students too are busy with lectures, reading and assignments and in addition they feel an urgent need to complete their task in a specified time. Nevertheless an increasing number of scholarships, fellowships and grants have not only enabled more students to undertake research but have enabled both professors and students to undertake more complex tasks.

Until 1919 only two universities, Toronto and McGill, offered graduate courses beyond the master's degree. In that year they had graduated eleven students with doctorates in pure science. Today Ontario has four, Quebec three, and six provinces each have one major university with graduate facilities. All of these have provision for obtaining advanced degrees in science although the number of fields is restricted in all but the larger institutions. During recent years the universities have graduated annually about 200 with doctorates and 1,500 with master's or equivalent degrees in arts and science. In addition there are many colleges and universities which provide excellent undergraduate training in research in many fields.

* Prepared in the Education Division, Dominion Bureau of Statistics.

CHAPTER IX.—AGRICULTURE

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Agriculture is Canada's leading primary industry, one whose continued growth and importance is felt in every sector of the economy. In the postwar years 1946-53 Canadian farmers realized an average net income of \$1,611,600,000 from farming operations. At the beginning of this century 40 p.c. of those gainfully employed were engaged in agriculture; today less than 20 p.c. are so employed. The decline of agriculture as a field of employment relatively to other sectors of the economy—notably manufacturing—has been accompanied by an increase in farm output, to two and one-half times that attained at the century's opening. This increase in output may be attributed to several factors: more scientific methods of farming, especially in regard to the dry land farming techniques of the western provinces, more diversified farming and the increase in mechanization. From 1947 to 1950 alone Canada's farmers spent an average \$304,000,000 a year on new equipment. In 1951 farming in Canada was carried out using nearly 400,000 tractors, 90,000 grain combines and 196,000 motor trucks, as well as 330,000 automobiles; all these figures are greatly in excess of totals for the same vehicles and machinery ten years earlier, and are a revolutionary development compared with the turn of the century. Land under cultivation, perhaps one of the best measures of the significance of agriculture in the economy, has tripled in the last 50 years and is now put at nearly 100,000,000 acres. Agriculture in Canada represents immense long term capital investment: recent estimates put the value of farm lands and buildings, implements and machinery and livestock, representing capital invested in some two-thirds of a million farms, at near the 10,000,000,000 dollar mark.

The historical development of agriculture in Canada has been dealt with in previous Year Books. The 1924 edition, pp. 186-191, discussed "The Development of Agriculture in Canada"; the 1939 edition, pp. 187-190, dealt with the "Historical Background of Canadian Agriculture"; "Canadian Agriculture during the War and Post-War Periods" was featured in the 1946 Year Book, pp. 200-211. These features and more specialized

aspects such as marketing, irrigation, soil zones, the Canadian Wheat Board and other topics dealt with in former Year Books and still of current interest are listed in Chapter XXIX of this Year Book under the heading "Special Material Published in Former Editions of the Canada Year Book."

Section 1.—Federal Government in Relation to Agriculture*

The creation of the Department of Agriculture is provided for in Sect. 95 of the British North America Act (1867) which states in part that "in each province, the legislature may make laws in relation to agriculture in the province" and that "the Parliament of Canada may from time to time make laws in relation to agriculture in all or any of the provinces; and any law of the legislature of a province relative to agriculture, shall have effect in and for the province as long and as far as it is not repugnant to any Act of the Parliament of Canada". As a result of this provision there now exists a Department of Agriculture, with a Minister of Agriculture at its head, in the Federal Government and in each of the provinces except Newfoundland where agricultural affairs are dealt with by the Agricultural Division of the Department of Mines and Resources.

Subsection 1.—General Policy and Price Stability

All the activities of the Department of Agriculture are directed toward the production of marketable farm products. Apart from the initial research and experimentation in connection with operations on the farm itself it is essential that processing, grading and inspection of farm products should be of a high standard if markets both at home and abroad are to be retained and new ones developed; so that the inspection and grading activities of the Department have become of increasing importance. By inspection and grading the buyer is able to obtain a product suited to his requirements; the producer is compensated according to the grade of his product and is thus encouraged to produce a high quality commodity.

The results of experimental and research work and the policies of the Department in general are made available to farmers and to the public through bulletins, the press, radio, television and the screen. Releases on market conditions and prices are a regular feature of this publicity.

The Federal Government has passed a number of Acts designed to give price stability in marketing agricultural products. The most important of these is the Agricultural Prices Support Act, 1944, which permits the Federal Government to stabilize the price of any agricultural product, except wheat and coarse grains which are marketed under other legislation, by outright purchase or by underwriting the market through guarantees or deficiency payments. The following products have been supported under the Act when occasion arose: potatoes, apples, dried white beans, extracted honey, dry skimmed milk, creamery butter, shell eggs, cheese, hogs and cattle.

Under the Agricultural Products Co-operative Marketing Act, 1939, price support may be extended by the Government to assist in financing initial payments made by co-operatives to primary producers on delivery of the products for sale. Initial payments are subject to negotiation between co-operative and government but may not exceed 80 p.c. of the average returns for like grades and qualities during the previous three years and the Government guarantees banks against loss in advancing funds to co-operative organizations with whom agreements have been signed. The legislation has been used extensively by co-operatives and agreements through the years have covered onions, potatoes, corn, many seed crops and ranch bred fox and mink pelts.

* Except as otherwise indicated this material was prepared under the direction of Dr. J. G. Taggart, C.B.E., Deputy Minister of Agriculture, Ottawa.

A number of provincial governments have legislation providing for the establishment of a Board to regulate or control the marketing of agricultural products sold within the province concerned. Under the British North America Act a provincial government cannot legislate with regard to products marketed outside the province or in export trade but under the Agricultural Products Marketing Act, 1949 the Federal Government may at discretion permit provincial marketing legislation to be applied in whole or in part to the marketing of agricultural products outside the province concerned and in export trade.

The Agricultural Products Board Act, 1951 states that the Board may buy, sell, export and import agricultural products when directed by the Governor in Council.

1.—Loans Approved and Disbursed under the Canadian Farm Loan Act, Years Ended Mar. 31, 1945-54.

NOTE.—Figures for previous years are given in the corresponding table of former Year Books beginning with the 1940 edition.

Year Ended Mar. 31—	Loans Approved					Loans Paid Out		
	First Mortgage		Second Mortgage		Total Amount	First Mortgage	Second Mortgage	Total Amount
	No.	Amount	No.	Amount				
		\$		\$	\$	\$	\$	\$
1945.....	728	1,623,000	176	100,700	1,723,700	1,561,174	100,235	1,661,409
1946.....	918	2,161,050	258	163,050	2,324,100	1,977,902	143,305	2,121,207
1947.....	1,312	3,165,250	404	253,900	3,419,150	3,030,915	242,896	3,273,811
1948.....	1,301	3,145,150	517	315,400	3,460,550	2,911,167	274,073	3,185,240
1949.....	1,821	4,450,100	756	469,200	4,919,300	4,169,070	425,966	4,595,036
1950.....	1,949	4,715,500	801	473,900	5,189,400	4,480,779	462,150	4,942,929
1951.....	1,796	4,312,450	680	409,550	4,722,000	4,288,866	404,213	4,693,079
1952.....	1,437	3,929,500	494	308,900	4,238,400	4,131,141	337,951	4,469,092
1953.....	1,685	5,458,750	559	393,550	5,852,300	4,766,149	342,410	5,108,559
1954.....	2,091	7,366,800	591	449,950	7,816,750	6,606,323	394,216	7,000,539

Farm Credit.—The Federal Government has made provision for the extension of credit to farmers under the Canadian Farm Loan Act and under the Farm Improvement Loans Act. The Prairie Grain Producers' Interim Financing Act, 1951 was emergency legislation intended primarily to relieve any hardship caused by the extremely unfavourable harvesting conditions of that autumn.

The Canadian Farm Loan Act.—Under this Act long term farm mortgage credit is available to Canadian farmers through the agency of the Canadian Farm Loan Board, established in 1929. Loans repayable on an amortized plan with equal annual payments over periods not exceeding 25 years are made to buy livestock, farm equipment and farm land, to make improvements and to pay debts and operating expenses. The Board may lend up to 60 p.c. of appraised value and up to \$10,000 on first mortgage, and up to 70 p.c. and \$12,000 on combined first and second mortgages.

In the year ended Mar. 31, 1954 loans were approved for a total of \$7,816,750, an increase of 33 p.c. over the previous year. At Mar. 31, 1954, 17,267 first mortgage loans and 2,828 second mortgage loans were outstanding for a total of \$35,074,819.

2.—Loans Approved under the Canadian Farm Loan Act by Province, Year Ended Mar. 31, 1954

NOTE.—Figures for previous years are given in the corresponding table of former Year Books beginning with the 1940 edition.

Province	Loans Approved				
	First Mortgage		Second Mortgage		Total Amount
	No.	Amount	No.	Amount	
		\$		\$	\$
Prince Edward Island.....	92	220,950	4	1,800	222,750
Nova Scotia.....	40	118,600	4	2,350	120,950
New Brunswick.....	95	253,050	14	11,150	264,200
Quebec.....	226	800,300	69	46,450	846,750
Ontario.....	521	2,117,150	50	39,100	2,156,250
Manitoba.....	174	582,350	92	70,850	653,200
Saskatchewan.....	605	2,200,000	296	236,000	2,436,000
Alberta.....	236	685,000	52	33,550	718,550
British Columbia.....	102	389,400	10	8,700	398,100
Totals.....	2,091	7,366,800	591	449,950	7,816,750

*The Farm Improvement Loans Act.**—The Farm Improvement Loans Act, administered by the Department of Finance, is designed to provide intermediate term credit and a type of short term credit for farmers to enable them to equip, improve and develop their farms. There is scarcely anything a farmer needs in the way of mechanical aids for his farm operation or for his home for which a loan may not be made. Assistance may also be obtained for the purchase of livestock, principally foundation or breeding stock; for installation or repair of farm electric systems; for repair, alteration or construction of farm buildings, including the home; and for fencing, drainage and other development projects. Credit is provided on security and terms suited to the individual borrower.

The chartered banks are the lending agency under the Act. The legislation, originally operative for three years 1945-47, has been extended from time to time for three year periods. The Federal Government guarantees each bank against loss up to 10 p.c. of the total loans made by it during the period. Under the Act the guarantee is limited by a provision stating that it will not apply to any loan made after the aggregate of all loans made by all banks in a given period reaches an amount fixed by statute. In February 1951 the Act was extended for three years and the statutory loan aggregate was fixed at \$200,000,000. Within two years the loans almost totalled this amount and a further extension of the Act was made for three years from Apr. 1, 1953. The aggregate of loans for this three year period, affected by the guarantee, is set at \$300,000,000. By Dec. 31, 1954, 282 claims amounting to \$149,814 had been paid under the guarantee.

Loans may be obtained for terms up to 10 years with interest not to exceed 5 p.c. The maximum amount to be advanced to a borrower at any one time was increased to \$4,000 by the legislation of 1953. The borrower must provide from 10 p.c. to 40 p.c. of the cost of his project.

By Dec. 31, 1953, \$383,184,852 or 74·6 p.c. had been repaid of the total loans made. Of those made during the first three years of operation, all but 0·2 p.c. had been repaid; of those made during the second three years, all but 1·4 p.c. had been repaid; all but 15·2 p.c. had been repaid of those made during the next three years; and for the twenty-one months of the fourth period ended Dec. 31, 1954, 32·5 p.c. of the loans made had been repaid.

* Prepared by D. M. McRae, Supervisor, Farm Improvement Loans Act, Department of Finance, Ottawa.

3.—Loans Made under the Farm Improvement Loans Act by Purpose 1945-54

Purpose	1953		1954		Total Loans Since Inception in 1945	
	Loans	Amount	Loans	Amount	Loans	Amount
	No.	\$	No.	\$	No.	\$
Purchase of agricultural implements.....	73,934	88,057,198	48,898	52,069,707	414,554	461,100,104
Construction, repair or alteration of or additions to any structure on a farm.....	3,876	5,057,563	4,239	5,661,520	23,576	27,621,908
Purchase of livestock.....	3,694	3,053,914	3,658	2,875,926	18,850	15,386,453
Improvement or development project.....	1,896	1,300,305	1,327	1,122,636	13,963	7,480,227
Purchase or installation of equipment or electric system or alteration of electric system on a farm.....	456	347,666	387	286,343	2,929	1,605,582
Fencing or drainage.....	106	76,114	63	57,674	602	412,374
Totals.....	83,962	97,892,760	58,572	62,073,806	474,474	513,606,648

4.—Loans Made under the Farm Improvement Loans Act by Province 1945-54

Province	1953		1954		Total Loans Since Inception in 1945	
	Loans	Amount	Loans	Amount	Loans	Amount
	No.	\$	No.	\$	No.	\$
Newfoundland.....	55	68,274	59	73,024	163	194,577
Prince Edward Island.....	1,671	1,497,575	1,085	922,244	6,844	6,199,517
Nova Scotia.....	1,077	945,862	1,034	866,171	4,456	3,889,110
New Brunswick.....	896	925,977	697	720,047	3,839	4,003,251
Quebec.....	7,621	8,722,234	7,656	8,434,638	32,310	35,802,672
Ontario.....	11,813	12,971,331	10,979	12,380,638	64,000	68,079,352
Manitoba.....	9,547	10,639,177	6,300	6,375,409	61,572	64,102,780
Saskatchewan.....	26,334	33,309,549	14,198	14,960,420	151,242	171,511,443
Alberta.....	22,526	26,207,368	14,385	15,055,403	136,503	145,977,768
British Columbia.....	2,422	2,605,413	2,179	2,285,812	13,545	13,846,178
Totals.....	83,962	97,892,760	58,572	62,073,806	474,474	513,606,648

Prairie Grain Producers' Interim Financing Act, 1951.—This Act, which came into force Jan. 15, 1952, provides short term credit to grain producers in the Prairie Provinces who because of congested delivery points or inability to complete harvesting of their grain are in need of credit until their grain can be delivered. Individual advances can be made to a maximum of \$1,000.

Prairie Farm Assistance Act.—The Prairie Farm Assistance Act, passed in 1939 and administered by the federal Department of Agriculture, provides for direct money payments by the Federal Government, on an acreage basis, to farmers in areas of low crop yields in the Prairie Provinces and the Peace River District of British Columbia. The Act was designed to assist the municipalities and provinces in years of crop failure to meet relief expenditures which would normally be too great to be assumed by them. The Act provides that payments be made to farmers under certain conditions and terms and, in order that Federal Government costs may be defrayed to some extent, it is required that 1 p.c. of the purchase price of all grains (wheat, oats, barley and rye) marketed in the Prairie Provinces be paid to the Federal Government and set aside in a special fund for the purposes of the Act.

If the farmer, who may be an owner, a tenant, or a member of a co-operative farm association engaged in farming, is located in a crop failure area, he may be awarded assistance on not more than one-half of the cultivated land or a maximum of 200 acres. The rates of payment range up to \$2.50 per acre.

From the inception of the scheme to Mar. 31, 1955 the total amount paid out under the Act was \$177,397,626. The amount collected under the 1 p.c. levy to Mar. 31, 1955 was \$85,767,933.

Subsection 2.—Agricultural Research and Experimentation

The Department of Agriculture conducts on a broad scale scientific research and experimentation on the control of pests and diseases, the nutritional requirements of plants and animals, the breeding and testing of new species and varieties, the microbiology of soils and foods, investigations of crop production and cultural methods, and many other matters. This work is carried on mainly by the Science Service and the Experimental Farms Service and, in addition to providing information on current production problems, is of paramount importance to the long time well-being of agriculture.

Conservation of the soil is of basic importance to agriculture and research in the form of soil surveys and study of methods for the protection and conservation of soil resources is carried on by the Department in collaboration with the provincial governments. Studies include the chemistry of the soil, cover crops, value of manure and fertilizers, cultural methods, use of tillage machinery and development of large land reclamation projects.

The Department has for many years conducted investigations into the control of insects and diseases of forest trees. The limited silvicultural work carried on has aimed at maintaining a supply of trees suitable for planting on the prairies as shelter belts against the wind and to prevent soil and snow drifting. Basically this is also a soil conservation measure.

Much of the research and experimental work is concerned with crop plants for, after the soil itself, these are of chief importance. This work includes the breeding and testing of suitable varieties of crops to be grown under the varying climatic conditions throughout Canada. The culture and the nutritional value of crop plants and the suitability of food crops for human consumption—even their appeal or lack of appeal to a housewife—are continuously under study.

Work on livestock includes mainly the feeding, care and handling of stock, its protection from insects and diseases and the production of suitable market and breeding types. A limited amount of work has also been done on the production of new strains of animals.

Research and study of processed products such as milk, butter, cheese and meat and of fruits and vegetables is a most active item in the scientific work of the Department. Storage of agricultural products creates many problems that call for constant study.

Chemical and biological research and experimentation is chiefly of an applied nature. The Department does not specialize in so-called fundamental research involving the discovery of basic scientific phenomena and laws but concentrates on the adoption of known processes and the application of such processes to specific aims. Some discoveries bordering on fundamental research however are occasionally made, and extension of research is also made to some degree into the basic field where certain information is lacking in applied science.

Agricultural research, particularly in plant science, must be decentralized to a great extent as most problems must be studied where they occur. Apart from the value to farmers of having a local source of information the experimental farms and science laboratories are widely distributed because the work can be done in no other way. In addition to the headquarters of the Experimental Farms Service at Ottawa work is carried on at 32 branch experimental farms, 20 substations and 2 forest nursery stations. Experimental work of local application is done at 232 illustration stations. The work of the Science Service, centralized at Ottawa, is also augmented by that of about 100 laboratories located throughout the country.

In the field of economic research, studies in farm management, land utilization, marketing and farm family living are undertaken in all parts of the country. The scope of the scientific and experimental work of the Department is revealed when it is realized that there is no plant or animal in Canada that is not susceptible to damage by disease caused by bacteria, fungi or viruses or subject to attacks by insects or, for animals, damage by internal parasites.

Subsection 3.—Protection and Grading

Unlike manufactured articles, even close scrutiny of most agricultural products is little help in determining their purity as food, or their value to the farmer for further production. Obviously products used as food must be pure and healthful and must satisfy standards of quality established for them. If agriculture is to be conducted on a sound basis, the supplies farmers buy—seeds, feeds, fertilizers and pesticides—also must carry a guarantee that they will be as represented. Much of the research and experimental work would be of no avail if legislation were not provided to see that the end-product of such work was satisfactory. In addition Canada's livestock, crops and trees must be protected from diseases that might be introduced with importations or that might originate in Canada.

These protective and grading services are a most important part of the work of two sections of the Department of Agriculture: the Production Service and the Marketing Service. Generally the protective features and the grading to standards or approval of analyses of farm supplies come under the Production Service. The grading of most food products is the responsibility of the Marketing Service. Legislative authority to impose protective and grading services is derived from about 20 Acts or their accompanying Regulations.

Health of Animals.—The protection of the health of Canada's livestock is a most important service. To guard against the introduction of contagious diseases from foreign lands stringent regulations are enforced by the Health of Animals Division covering the importation of livestock, livestock products and even packing material and litter. Provision is also made for the control or eradication of animal diseases developing within Canada. Programs directed at the eventual eradication of such diseases as bovine tuberculosis and brucellosis are a continuing part of the work. The Division is responsible for the inspection of animals slaughtered for food and post-mortem examination is made of all carcasses in the course of slaughter and dressing before the meat is approved for human consumption. Sanitary conditions in packing plants and slaughter houses come under review and all canned meats must meet high standards of processing to qualify as food.

Protection of Supplies.—The Plant Products Division, in co-operation with the provinces and other agencies, is concerned primarily with the administration of Acts respecting feeding stuffs, fertilizers, pesticides, hay and straw, fibre flax and binder twine, and the production of seed. The inspection services of the Division have three main functions: (1) to enforce the Acts that regulate the sale of the agricultural supplies; (2) to provide as required such services as seed crop inspection and the sealing of seed produced from inspected and other approved crops; (3) to co-operate with provincial governments and other agencies in promoting and improving supplies of seeds, feeds, fertilizers and pesticides.

Visual inspection is of little value for most of these products and laboratory testing is necessary; the laboratory services of the Division maintain branch offices across Canada. Testing seeds is a complex matter, for they must be tested for germination, variety, purity and freedom from weeds and other kinds of seeds before they are graded. All feeding stuffs, fertilizers and pesticides are subject to registration and this is refused if the use of products would be dangerous, if the ingredients or analyses are unsatisfactory or if the claims made regarding their value are incorrect or misleading.

Plant Protection.—The Division of Plant Protection functions with regard to plants and plant products much as the Health of Animals Division does with animals, and it administers the Destructive Insect and Pest Act. Imported nursery stock and plant material are all subject to inspection as protection against the introduction of insects and diseases. Extensive inspection is maintained within Canada to identify, localize and exterminate dangerous enemies of crops and trees. Provision is also made for the inspection of potato crops to be used for seed, for domestic and export markets and for the issuance of health certificates required for a wide range of plant products.

Standards and Inspection.—The Department has been steadily establishing and improving standards of quality for agricultural products for over 50 years. This work originated in an effort to improve the quality of export commodities and has gradually been extended to include many products that move in interprovincial trade. Most provinces have adopted these standards for enforcement on products marketed within their boundaries.

Grade standards are established and enforced for dairy products, meats, eggs and poultry, fresh and processed fruits and vegetables and seeds and are widely recognized outside Canada. Many Canadian foods and agricultural products command premium prices because of the strict quality standards maintained.

Dairy Products.—Producers, processors and consumers all derive benefits from grading and inspection services of the Dairy Products Division. Authority to carry out such services is contained in the Canada Dairy Products Act which established national standards for dairy products and regulates interprovincial and international trade. Grade names and standards have been prescribed for cheddar cheese, creamery butter and dry skimmed milk and each of these products must be graded before entering into interprovincial or international trade. Dairy products for which grade names have not been established, such as ice cream, evaporated milk and process cheese, are required to meet prescribed standards for composition, packing and marking before being exported from Canada, imported into Canada or moved from one province to another. Authority to carry on the grading and inspection of dairy products made and sold within the province of origin is derived from legislation passed by the province concerned. Nine provinces have either passed or are preparing to pass legislation concurrent with that contained in the Canada Dairy Products Act and Regulations thereunder.

Meats.—In addition to the veterinary inspection of carcasses for wholesomeness, inspection and grading of meats for quality is of importance. All hogs slaughtered at inspected and approved plants are rail graded, that is, the farmer is paid on the dressed weight and quality of the carcass. All beef carcasses in inspected plants are graded and the better grades are marked with the national brands according to standards of 'Choice', 'Good' or 'Commercial' qualities. Lamb and veal carcasses are graded on an optional basis.

Wool is inspected and graded in registered wool warehouses.

Eggs and Poultry.—There are 1,274 registered egg grading stations for the grading and packing of eggs; and 43 registered egg breaking stations for the processing, grading and packing of frozen egg products. Registered poultry processing and eviscerating stations for the processing, eviscerating, grading and packing of poultry total 338. Because of a rapidly increasing demand for eviscerated poultry the quantity processed in registered processing and eviscerating plants has increased—from approximately 4,000,000 lb. in 1950 to 45,046,959 lb. in 1954.

Inspection of eggs, poultry and frozen egg products is compulsory on all sizable quantities intended for export, and also for interprovincial poultry shipments of 10,000 lb. or over. These products are also checked inspected periodically for grade when offered for wholesale and retail sale. The sale of eggs by grade at retail is compulsory throughout Canada and the sale of poultry by grade at retail is compulsory in many of the larger consuming centres.

Fresh Fruits and Vegetables.—Grades are established for all principal fruits and vegetables produced in Canada. Practically all products for which grades are established must be inspected and certified if for shipment out of Canada. In addition inspection and certification is compulsory on specified products if produced in certain provinces and shipped to another province. To provide this service, mostly seasonal in nature, a staff of inspectors is maintained throughout the foremost producing areas across Canada. In the larger distributing centres an inspection staff is maintained to administer grading,

packaging and marking regulations at the wholesale and retail level, to collect and compile market statistics and to provide on request a commercial inspection service covering the quality or condition of produce received by the wholesaler. The shippers, brokers, commission houses and wholesalers dealing in fruits and vegetables in interprovincial, export or import trade must be licensed and are subject to established regulations.

Processed Fruits and Vegetables.—When special regulations covering canned fruits and vegetables were established under the Meat and Canned Foods Act in 1907 Canada became the first country to have any such legislation. Regulations under the Meat and Canned Foods Act now establish grades for practically all canned, frozen or dehydrated fruits and vegetables as well as for jams. Sanitary regulations are also established and are enforced by a staff of inspectors who provide an inspection service covering interprovincial, export or import movement of processed fruits and vegetables. This movement constitutes about 98 p.c. of the entire industry in Canada, the sales value of which amounted to approximately \$250,000,000 in 1954 as compared with \$20,000,000 in 1919. Although no grades are established in the regulations the processing and packing of such products as pickles, olives, vegetable soups, etc. is also supervised and controlled. About 560 processing plants of one kind or another operate under a Certificate of Registration issued by the Department of Agriculture.

Honey.—Regulations are established for the classifying, grading and marking of all honey moving in interprovincial or export trade. Inspection is compulsory on honey being shipped out of Canada and administrative inspections for class and grade are made at the wholesale and retail levels on the domestic market. Interprovincial and export shippers and packers of pasteurized honey must be registered with the Department of Agriculture.

Maple Products.—Regulations are established for the prohibition of adulteration of maple products, for inspection and analysis, for proper identification of maple products and of 'colourable imitations' and for the licensing of manufacturers or packers and of all sugar bush operators operating in the interprovincial or export market. To enforce the regulations periodic inspection is made of the manufacturing plants, markets, stores and restaurants.

Subsection 4.—Canada's Relationship with FAO

The first Conference of the Food and Agriculture Organization of the United Nations was held in Quebec City in 1945 and at the 8th Session the Conference celebrated its tenth anniversary in the FAO building in Rome, Italy, November 1955. During this ten year period the membership progressed from 42 to 71 nations and world agricultural production increased substantially. In 1946 the immediate issue was food shortages but by 1954 the disposal of surplus foodstuffs had become a problem for some countries. However as the Committee on Commodity Problems observed in June 1955, "On the whole, the world food position, despite some progress in production, still presents the long-standing problem of unequal rates of progress among different regions and wide disparities in consumption standards".

The organization and objectives of FAO have been explained in earlier editions of the Year Book. FAO is concerned mainly with the problems of countries that have not yet reached a high degree of economic development. Briefly the chief aims are: to help nations raise their standard of living; to improve the nutrition of the people of all countries; to increase the efficiency of farming, forestry and the fisheries; and thus to give all people more opportunities for productive work.

FAO has neither the funds nor the authority to buy and distribute food, supply fertilizers and farm machinery, or to build and staff laboratories, but it does effectively assist member nations by making an over-all statistical study of world food supplies and requirements and supplying information requested by members; by sending experts to work with scientists and technicians of member governments asking for this help and by

dispatching special missions to countries requesting them; and by making definite recommendations for concerted action and providing a means whereby nations may work together to carry out programs.

Technical Assistance.—Although routine activities such as the collection and compilation of statistics and other information are still important functions of FAO, most of the resources at the disposal of the Director-General are used for technical assistance work. Much of this is of a continuing nature and forms part of the Organization's regular activities and is supplemented by special short term projects based on agreements with recipient countries. FAO has also given attention to the training of suitable persons in the underdeveloped countries in order to qualify them to continue the work developed by outside experts sent under the technical assistance program. To accomplish this, emphasis has been placed on training centres and seminars and the provision of fellowships and scholarships to qualified persons for study abroad.

FAO operates technical assistance programs in 55 countries. About 600 experts were in the field at the end of 1955 and the total technical assistance budget for that year exceeded \$7,000,000. FAO has transmitted to governments more than 300 final reports from its experts. These contain concise summaries of recommendations for government action and many set out detailed estimates of the cost of carrying out specific projects. However the implementation of development plans to raise agricultural productivity and improve the nutritional level of their populations remains the responsibility of the national governments.

Some results of the technical assistance program have appeared in the form of increased production but most of the work is of a long term nature—land reclamation, forest conservation and fisheries development. Some illustrations of the progress made are as follows:—

- (a) In the hybrid seed corn program FAO-aided international action against the desert locust in the Middle East has prevented any serious loss to food production in the past three years. Plans for the 1954-55 anti-locust campaign throughout the Arabian Peninsula were laid by an FAO working party.
- (b) In Thailand FAO veterinarians are assisting in a program to control livestock diseases and have extended widely field trials of vaccine used against Newcastle disease in poultry: 80,000 fowl were vaccinated in 1954 compared with 3,000 in 1953.
- (c) Under an FAO-sponsored rice hybridization project at Cuttack, India, more than 6,000 plants combining the best qualities of Indian and Japanese varieties (*indica* and *japonica*) were produced in 1953 and 1954 and their seed distributed to participating countries. India reported that individual selections had been observed with double the yields of their *indica* parents, and Burma and Malaya reported that some of the hybrids showed high resistance to the stem borer pest.
- (d) In India FAO experts helped reorganize government farm machinery workshops in Uttar Pradesh and trained supervisors and foremen in the design and welding of farm equipment. In the Talkatora workshops an estimated 300 p.c. improvement in output was achieved in the first six months of 1954.
- (e) The government of Burma has adopted a national plan for forest development based on an FAO expert's recommendation. In Austria, through advice from FAO on measures to increase forest productivity, an estimated 20,000 additional acres were reforested by the end of 1954.

Regional Activities.—The importance of regional activities has increasingly engaged FAO's attention. Fisheries councils have been established for the Indo-Pacific region and for the Mediterranean and regional forestry commissions have been established for Asia, Europe, Latin America and the Near East. The International Rice Commission, although not limited in membership to Far Eastern countries, operates chiefly as a regional body. A European Foot-and-Mouth Disease Commission has been established and an FAO Desert Locust Control Committee for many Middle Eastern countries plagued by locusts. Active co-operation is maintained between FAO and the regional Economic Commissions of the United Nations and senior FAO officers have been stationed at the headquarters of the Commissions to maintain continuous liaison and direct joint programs of work in fields of common interest. A number of regional meetings on agricultural plans,

prospects and programs as well as numerous regional technical meetings have been held and various regional undertakings are in progress in addition to those being implemented through formally constituted commissions or councils.

Surplus Disposal.—In recent years FAO has given a good deal of attention to questions of surplus disposal under the following headings:—

- (a) the promotion of suitable methods of disposal on special terms for specified purposes, particularly to aid economic development, supplementary welfare distribution schemes, and emergency relief;
- (b) the formulation of principles and guiding lines to be observed in surplus disposal programs and transactions;
- (c) the creation of an intergovernmental forum in Washington, D.C. for constructive consultations on these questions; and
- (d) the organization of field missions to investigate on the spot the absorption possibilities of potential recipient countries.

The principles and guiding lines have been fully set out in the printed pamphlet "Disposal of Agricultural Surpluses—Principles Recommended by FAO", published in December 1954.

To assist promotion of surplus disposal programs and observation of agreed principles the Committee on Commodity Problems established a Consultative Sub-Committee on Surplus Disposal. The Sub-Committee is open to interested FAO member governments and meets in Washington, D.C. It has also established Working Parties on dried skim milk and on butter. Canada participates in each of these committees.

Canada and FAO.—Canada is a member of the FAO Council and a Canadian was a member of the Co-ordinating Committee in 1954 and 1955. In their individual capacities, Canadians have been active in carrying out the work of FAO. Members of the Canadian delegation take an active part in the Conference proceedings and a number of Canadian specialists have undertaken assignments abroad as part of FAO headquarters staff and force of technical experts. In Canada an Inter-departmental Committee of representatives of the federal Departments of Agriculture, Fisheries, Northern Affairs and National Resources, National Health and Welfare, External Affairs, Finance, and Trade and Commerce serves in an advisory capacity on matters pertaining to FAO and as a liaison with the Organization on non-policy matters.

Section 2.—Provincial Governments in Relation to Agriculture*

Subsection 1.—Agricultural Services

Newfoundland.—The Government agricultural services in Newfoundland are operated by the Agricultural Division of the Department of Mines and Resources. The Division is in charge of a Director, assisted by a staff of 21 officers including an Assistant Director and four men employed on a contractual basis. The Director is responsible to the Deputy Minister of the Resources Branch of the Department.

For purposes of administration and extension work the Province is divided into nine districts with a Fieldman with permanent headquarters located in each district except Labrador, where the agricultural officer is resident for the summer months only. Officers in charge of different phases of agricultural development visit each district on assignments from the St. John's office.

Departmental policies in support of the agricultural industry in Newfoundland include assistance in the clearing of land with Government owned and operated tractors; the distribution of ground limestone at a subsidized rate; the payment of bonuses on purebred sires; and grants to agricultural societies and assistance to marketing organizations and exhibition committees. An inspection service is provided for poultry products, vegetables and blueberries, production of the latter being encouraged by the burning of suitable berry areas and the improvement of roads and trails leading to them. Small fruit development generally is promoted through the distribution of quality foundation stock.

* Information supplied by the agricultural authorities of the various provinces.

The Agricultural Division co-operates with the Department of Education in furthering the 4-H Club movement in the Province and accepts responsibility for all projects pertaining to agriculture.

Every encouragement is given to production of livestock. The Division has maintained an experimental sheep flock for the past four years under the management of a Scottish shepherd. Poultry and beef production have increased with favourable marketing conditions and Departmental assistance and loans under the Provincial Farm Development Loan Act. Two veterinarians, employed by the Division, supervise the health of animals program and the eradication of bovine tuberculosis has been carried on over the past five years as a joint federal-provincial project.

Prince Edward Island.—The Provincial Department of Agriculture is presided over by a Minister assisted by a Deputy Minister. The Department also employs a Dairy Superintendent and Assistant Dairy Superintendent, a Director of Veterinary Services, a Horticulturist, and an Agricultural Engineer, five subsidized practicing Veterinarians, a Soil Analysis Assistant, a Poultry Director, an Agronomist, three Field Representatives, a Director and Assistant Director and two extension workers of Women's Institutes.

Nova Scotia.—The Department of Agriculture and Marketing endeavours to "help the people to help themselves" through strengthening member interest in such organizations as the Nova Scotia Federation of Agriculture, Nova Scotia Fruit Growers' Association, through various agricultural co-operative organizations, credit unions and several producer organizations. The Department is assisted by the Nova Scotia Advisory Committee on Agricultural Services which was established a few years ago to further the effective prosecution, within the Province, of agricultural policies and projects of the Federal and the Provincial Departments of Agriculture. The main purpose and function of the Committee, which meets quarterly, is to determine ways and means by which the purposes of both Departments of Agriculture may best be served, and how the work of those Departments may be co-ordinated and directed through integrated agricultural policies and with a minimum duplication of services.

New Brunswick.—Provincial Government policy concerning agriculture in New Brunswick is directed by the Department of Agriculture. This Department has as its head the Minister of Agriculture who is assisted by a Deputy Minister and the Directors of the following services: extension, livestock, dairy, veterinary, poultry, horticulture, field husbandry, soils and crops, plant protection and promotion, agricultural engineering, home economics, Credit Union Co-operative Association, agricultural education, apiculture, and agricultural societies.

Quebec.—The Department of Agriculture of Quebec comprises eleven services: rural education, rural economy, extension, animal husbandry, horticulture, field husbandry, information and research, home economics, animal health, rural engineering and the secretariat. Each service is divided into sections dealing with particular problems.

The Department also includes many other special organizations such as the Research Council, the Dairy Industry Commission, the Dairy School of St. Hyacinthe, the Provincial Extension Farm (Deschambault), the Fur Bearing Animals Extension Farm (St. Louis de Courville). The Farm Credit Bureau, the Quebec Sugar Refinery (St. Hilaire) and the Veterinary College (St. Hyacinthe) are also under the authority of the Minister of Agriculture and the Office of Rural Electrification is connected with the Provincial Executive Council.

The annual competition for the Agricultural Merit Order, organized in 1890, is held alternately in each of five regions. Each contest lasts five years and covers the various farm products; its main objective is to ascertain the personal merit of the competitors who have most distinguished themselves and can serve as examples. County Farm Improvement Contests have been conducted for more than twenty-two years and are

still very popular. Over 6,000 competitors have already benefited from these contests which promote better methods of culture designed to increase farm income. In 1955, a group of 275 farmers registered for these competitions.

The Drainage Service deals with soil improvement or land reclamation by dredging the large watercourses with its own equipment or under contract and by renting equipment at very low rates to farmers who want to improve their croplands. The Department of Agriculture also gives assistance in the form of grants towards such projects. Soil improvement measures include large drainage projects carried out by the Department and smaller projects carried out by groups of farmers with government help. In the past five years 500,000 acres of land have been improved or reclaimed and 400,000 acres of underground drainage have been completed. In 1954, 19,500 farmers benefited from help given by this Service.

Various forms of assistance are offered towards improvement of crops and livestock. An artificial insemination station operates at St. Hyacinthe for the benefit of 34 breeders' clubs, and plant breeding stations for cereal and forage crops, vegetables and small fruits are maintained in a number of localities. Trained specialists are employed in the work of controlling plant and animal pests and diseases; the main laboratories are situated at Quebec City and field laboratories are located in different districts or in schools.

Agricultural co-operation is widespread in Quebec. There are 660 co-operatives with 68,000 members and 90 agricultural societies with 30,000 members to serve local interests and organize county exhibitions. There are also 850 Cercles de Fermières (Women's Institutes) in operation with a membership of 49,000; 450 farmers' clubs with a membership of 22,000, and 140 junior farmer clubs where 3,450 young boys and girls are working on numerous practical agricultural projects.

The Farm Credit Bureau was established in 1936. During 19 years of operation the Bureau has placed at the disposal of 36,000 farmers of Quebec a sum of \$114,000,000 and has established 17,000 young men on farms.

Ontario.—The Ontario Department of Agriculture provides financial assistance and administrative services to agriculture through its Head Office, 11 branches, and three experimental farms, and through research and extension work carried on at the four educational institutions under its administration. In addition to general administration the Head Office administers the policies providing assistance to farmers and settlers in northern Ontario in connection with land breaking and clearing and with improving farms and livestock.

The Live Stock Branch promotes livestock improvement policies, licenses and examines stallions and gives support to purebred live stock associations.

The Field Crops Branch assists in the development of good cultural practices and promotes the use of improved strains of seed, the improvement of pastures, and the eradication of weeds.

The Dairy Branch provides an inspection, instruction and supervision service to all dairy factories and promotes the production of clean milk on farms.

The Farm Economics Branch conducts cost studies on agricultural production in co-operation with agricultural organizations.

The Fruit Branch enforces fruit and vegetable regulations, provides information to growers, and administers the Co-operative Marketing Loans Act.

The Co-operation and Markets Branch administers the Farm Products Marketing Act, the Ontario Food Terminal Act and the Farm Products Containers Act.

The Milk Control Board, under the Milk Industry Act, regulates and supervises the marketing of fluid milk.

The Agricultural and Horticultural Societies Branch gives assistance to agricultural and horticultural fairs and exhibitions, plowing matches and other competitions, and administers the Community Centres Act.

The Agricultural Representatives Branch carries on an educational and extension service through agricultural representatives located in all counties and districts and gives direction to 4-H Club work and the Ontario Junior Farmers' Association.

The Women's Institute Branch and Home Economics Service gives leadership and direction to organized activities of rural women.

The Statistics and Publications Branch, in co-operation with the Dominion Bureau of Statistics, provides a crop reporting service and gathers and disseminates data on crops, livestock and dairy products.

The Horticultural Experiment Station at Vineland, the Western Ontario Experimental Farm and Agricultural School at Ridgetown, the Demonstration Farm at New Liskeard, the Kemptville Agricultural School, the Ontario Agricultural College including Macdonald Institute, and the Ontario Veterinary College at Guelph, all under the administration of the Department, provide research and extension services to Ontario agriculture.

Manitoba.—The Department of Agriculture serves Manitoba through the following branches: agricultural extension; livestock; dairy; soils and crops; agricultural publications and statistics; weeds administration; co-operative services; and the provincial veterinary laboratory.

The Extension Service deals with agronomy, horticulture, poultry, agricultural engineering, beekeeping, 4-H Clubs and women's work, and has specialists devoting their attention to these subjects. Meetings, field days and short courses are held. Thirty-five agricultural representatives are located throughout the Province, each representative serving from one to five municipalities and twelve home economists serve designated areas.

The Live Stock Branch administers the Animal Husbandry Act, develops and administers policies that encourage the improvement and production of livestock, and works in close co-operation with the Veterinary Laboratory Service and the Federal Health of Animals Division in the control of livestock diseases.

The Dairy Branch administers the Dairy Act, supervises the grading of cream, inspects creameries and cheese factories, gives instruction in cheese and butter making, issues licences to makers of dairy products and to cream graders and conducts a dairy-cost study among milk producers. Extension activities include addressing meetings and preparing articles and leaflets on dairy farm problems.

The Soils and Crops Branch deals with grain and forage crops conservation and fertility and provides liaison between the Province of Manitoba and the Government of Canada in regard to PFRA projects. The Branch develops and administers policies that encourage good field crop husbandry and conservation practices.

The Agricultural Publications and Statistics Branch publishes and distributes annually approximately 100,000 bulletins, circulars, posters, leaflets, etc.

The Weeds Administration Branch directs the activities of 18 municipal weed control units comprising 70 rural municipalities engaged in eradicating deep rooted, persistent perennial weeds; supervises weed demonstrations; investigates weed problems; conducts weed surveys; and prepares weed literature, radio addresses, articles, pictures, mounted weed specimens, etc.

The Co-operative Services Branch takes care of the registration and supervision of co-operatives and credit unions and the administration of the Acts governing them. The Branch also collects and compiles statistics on co-operative activity throughout the Province. The Director is Secretary of the Co-operative Promotion Board.

The Veterinary Laboratory operates a diagnostic laboratory for animal diseases, the services of which are available to veterinarians and livestock owners.

Saskatchewan.—The Saskatchewan Department of Agriculture is organized in the following branches and services.

The Administration Branch includes the Accounting Division handling staff records, accounts and vouchers, and mail assembly; the Agricultural Records Division, handles records particularly of agricultural and horticultural societies; the Statistics Division

in co-operation with the Dominion Bureau of Statistics, collects data on crop conditions, production, marketings and income; and the Radio and Information Division broadcasts farm information daily over seven private stations.

The Agricultural Representative Service has a field staff of 37 agricultural representatives, four area supervisors and specialists in farm mechanics and visual aids. The Farm Labour Division co-ordinates farm labour requirements and services with federal agencies. The Service provides an extension field staff for all Branches of the Department as well as for the other agencies operating within the Co-operative Agricultural Extension Program. Agricultural representatives are active in all federal, provincial and university farm services. In farm labour matters co-operation is maintained with the federal Department of Labour and the National Employment Service in directing annual movements of farm labour in and out of the Province. Agricultural representatives work through Agricultural Conservation and Improvement Committees in each rural municipality and local improvement district to supply the farmer with the scientific and practical information necessary for improvement in agriculture. Agricultural committees are instrumental in studying local farm problems and in initiating agricultural improvement programs. These programs are encouraged through an Earned Assistance Program under which the Department pays one-half the cost of local group development projects.

The Animal Industry Branch includes four divisions. The Dairy Division administers dairy herd improvement programs and assists producers with management and production problems; inspects and licenses dairy manufacturing and frozen-food locker plants; and administers dairy, locker plant and margarine legislation. The Livestock Division encourages the use of suitable animals for breeding purposes by the establishment of pure-bred sire areas and by assistance in the purchase and distribution of stallions, bulls, boars and rams. It registers brands, licenses livestock dealers and agents and promotes programs on insect control, feeding and management. The Poultry Division maintains flock testing and turkey grading services; administers an approved hatchery policy, licenses produce dealers and poultry buyers, hatcheries and hatchery agents. It also assists with poultry shows and field days and otherwise promotes flock improvement. The Veterinary Division assists students in veterinary science under a scholarship plan, administers disease testing and vaccination programs and co-operates with Federal Government officials and local veterinarians in disease prevention and control.

The Conservation and Development Branch, established in the Department of Agriculture on Apr. 1, 1949, is responsible for the engineering services extended by the Department for irrigation development, usually in co-operation with the Federal Government, and for drainage programs and projects. Reclamation of land by drainage, development of misused land and under-utilized land, and construction of provincial community pastures all come within its jurisdiction. The Branch administers the Farm Implement Act and provides engineering assistance to conservation and development areas, water users' districts, and irrigation districts in connection with water control projects.

The Lands Branch, brought under the Department of Agriculture, Apr. 1, 1947, administers all Crown, school and Land Utilization Board lands except forest reserves and parks in the settled area of the Province; classifies it according to the use for which it is best suited; disposes of such lands under long term leases; collects rental for land under disposition; secures land control for land utilization projects, including the purchase and exchange of lands and Crown lands; supervises new settlement projects including land improvement by the Department and by lessees and operates provincial community pastures.

The Plant Industry Branch organizes and administers programs for crop improvement and crop protection, and advises on seed and crop improvement, soil conservation, horticultural problems, weed control and management of irrigated land. The improvement of grassland is promoted through a forage crop program. The Seed Plant Division carries on custom cleaning of forage seeds and registered cereals. The Apiary Division advises on beekeeping and honey production, and carries on continuous inspection for American foul brood and supervises grading.

Alberta.—The Alberta Department of Agriculture is organized in the following branches and services.

The Field Crops Branch deals with all matters that pertain to the utilization of soil and the production of crops. A Commissioner of Field Crops and four Supervisors administer programs and policies relating to crop improvement, soil conservation and weed control, crop protection and pest control, and horticulture. Agricultural Service Boards of municipalities carry out programs and administer regulations for which the municipality is made responsible by provincial legislation; the Department is represented on each Board.

The Live Stock Branch aids in maintaining the quality of herds and flocks by assisting farmers in securing purebred herd sires and by maintaining an artificial insemination laboratory. The work of the Branch includes the supervision of livestock feeder associations and the administration of legislation relating to stock inspection, brands, domestic animals and the sale of horned cattle.

The Dairy Branch administers the Dairymen's Act and the Frozen Food Locker Act. Grading and purchasing of raw produce by all dairy plants are under regulation, as well as standards of construction, manufacture, processing, sanitation and temperature control for dairies and frozen food lockers. A regular cow testing service is available to dairy producers and the Branch laboratory provides facilities for chemical and bacteriological analyses needed for industrial directives. Yearly cost studies and dairy farm management services are operating in the principal milk producing areas.

The Poultry Branch carries on programs for the improvement of poultry husbandry, supervises flock approval for the control of pullorum disease, maintains a practical poultry breeding plant for the distribution of breeding stock and issues all hatchery, wholesale, first receiver and truck licences for the handling of poultry products.

The Veterinary Services Branch provides the scientific diagnosis of livestock and poultry diseases through its laboratory; conducts investigations of disease conditions; gives lectures in veterinary science at the University of Alberta, Schools of Agriculture, and a large number of meetings; and actively promotes government policies aimed at reducing disease losses throughout the Province.

The Apiculture Branch administers the Bee Diseases Act which requires the registration of all beekeepers and the maintenance of an inspection service; it also administers the regulations on honey grading. The Branch carries on a considerable amount of general educational work.

The Agricultural Extension Service operates 42 offices and employs the services of 48 district agriculturists and 19 district home economists. The district agriculturists work with the farmers, assisting with their problems, and with departmental policies designed to improve the standard of agricultural practices; the district home economists provide a similar service for farm women. Bulletins are prepared dealing with agricultural and home economics topics. The Branch is responsible for the supervision of agricultural societies and, in co-operation with the Federal Department of Labour, is concerned with recruitment and placement of farm labour.

The Fur Farm Branch administers the licensing and exporting of live animals and pelts, assists fur farmers with problems pertaining to care and management and stock improvement, and operates a vaccine distemper assistance plan to control disease.

Schools of agriculture and home economics are operated at Olds, Vermilion and Fairview (see p. 408).

A Radio and Information Branch, established on Apr. 1, 1953, provides a radio program consisting of five broadcasts a week over seven Alberta stations. Weekly information bulletins are prepared for distribution to press and radio.

British Columbia.—The Department of Agriculture has four main branches. The Administrative Branch is responsible for the general direction of agricultural policies, administration of legislation affecting agriculture and for the compilation of reports and

publications. This Branch also maintains direct supervision of the Field Crops, Soil Survey, Plant Pathology, Entomology, Apiary, Markets and Statistics, Farmers' Institutes and Women's Institutes Branches.

The Livestock Branch engages in the promotion and supervision of the livestock industry and provides veterinary services affecting disease control regulations as well as supervising stock brands, inspection of dairy and fur farm premises, and inspection of beef grading. The Branch also supervises the operations of the Dairy Branch in the inspection of commercial dairy premises. Officials are stationed at 11 centres throughout the Province.

The Horticulture Branch supervises fruit, vegetable and seed production, and provides advice on plant diseases and insect pest control. The Branch maintains field offices at 11 points in the southerly section of the Province.

The Agricultural Development and Extension Branch offers general information services to farmers through 23 offices which cover all major farming districts. In addition this Branch provides agricultural engineering service, supervision of the Government land clearing program, farm labour services and promotion of junior club projects. The Poultry Branch, offering extension services to the poultry industry, is also a part of this Branch.

Subsection 2.—Agricultural Colleges and Schools

All provinces provide facilities for training in agricultural science at university level. Such colleges are administered by either the Department of Agriculture or the Department of Education of the respective province.

Newfoundland.—There are no agricultural colleges in the Province. The Agriculture Division of the Department of Mines and Resources however provides a number of scholarships annually for young men to attend agricultural colleges on the mainland of Canada.

Prince Edward Island.—The two year course in scientific agriculture offered at Prince of Wales College, Charlottetown, is designed for students preparing to enter third year at Macdonald College, Que.

In the Vocational School the short courses offered in agriculture are planned to provide not only knowledge and skill but to develop in the student a sense of the dignity and importance of agriculture as a calling and an understanding of the importance of the industry to the Province.

Nova Scotia.—Nova Scotia Agricultural College at Truro offers three courses: the first two years of a course leading to the degree of Bachelor of Science in Agriculture; a two year course in general agriculture; and a two year course in vocational agriculture. In addition the College assists in conducting short courses at various provincial centres, supports Folk Schools and gives leadership and direction to the 4-H Club organizations. Tuition is free for Canadian students.

New Brunswick.—The Province's four Agricultural Schools are located at Woodstock, Fredericton, St. Joseph and St. Basile. Two year agricultural courses extending over five months each year are offered at St. Joseph, Fredericton and St. Basile and at Woodstock a three year course is conducted. The curriculum includes training in all phases of agriculture, shop and general academic work. Home economics courses of 10 months are offered at Woodstock and St. Joseph in conjunction with the agricultural courses.

Quebec.—Courses in agricultural schools in the Province include a four year university course leading to a degree of Bachelor of Science in Agriculture at the following universities: Laval Faculty of Agriculture (Ste. Anne de la Pocatière); L'Institut Agricole d'Oka (affiliated with the University of Montreal); and McGill Faculty of Agriculture (Macdonald College). At the Provincial Veterinary School (St. Hyacinthe), affiliated with the University

of Montreal, a four year course is offered leading to a degree of doctor in veterinary medicine. There are also nine secondary agricultural schools throughout the Province: 10 regional schools and six orphanages offering courses in agriculture. More than 1,500 students, the great majority of whom are sons of farmers, attend these intermediate and regional schools of agriculture and in the orphanages 150 pupils follow practical agricultural courses. A farm is always annexed to the school for practical training and specialists give instruction on the maple sugar industry, farm mechanics, co-operatives, plant protection, veterinary hygiene, aviculture, marketing and silviculture. School co-operatives and clubs are organized and directed by the pupils under the supervision of their professors. Household science training for the daughters of farmers and settlers is given in five of these schools; during the summer of 1954, 390 girls attended these courses which extend over the four summer months of two consecutive years.

Ontario.—The two year course of the Ontario Agricultural College for the Associate Diploma in Agriculture is planned to provide basic training of personnel in agriculture. Young persons interested in making agriculture their vocation study the application of science to agricultural practice and also receive training for rural citizenship.

The four year course for the degree of Bachelor of Science in Agriculture is designed for fundamental education in the science of agriculture. A sound training is provided for farming as a profession, for entrance into government extension and allied agricultural services, agricultural industry, teaching, and for those who wish to proceed to graduate studies for the Master's and Doctorate degrees.

Graduate courses are also offered leading to the degree of Master of Science in Agriculture. Graduate students are enrolled in a department or departments of the Ontario Agricultural College conjointly with a department or departments of the University of Toronto for advanced courses of study and training in experimentation and scientific investigation. M.S.A. graduates may go into teaching, research, or for further post-graduate study for a Doctorate degree.

Macdonald Institute offers young women a one year course of practical training in the art and science of homemaking. This leads to a diploma of merit but gives no professional standing. A four year professional course is also available leading to a Bachelor of Household Science degree granted by the University of Toronto. University matriculation standing is necessary to enter the four year course.

The Ontario Veterinary College offers a course leading to the degree of Doctor of Veterinary Medicine. It is a five year course with two four-month periods of regulated summer internship. In addition to its function as a teaching institution, the College is a centre for research into the diseases of animals and provides free consultation for veterinary surgeons in practice as well as extension services in the interests of the livestock industry.

The Kemptville Agricultural School offers diploma courses as follows: a two year diploma course in agriculture (two terms of six months each) giving practical training in modern farm methods designed primarily for young people who wish to farm but serving also as a preparation for many other occupations closely connected with agriculture (stress is laid on the development of community leadership); a one year diploma course (six month session) leading to a diploma in homemaking and qualification for the less exacting positions in fields of home economics; a two year diploma course (two terms of six months each) for girls wishing to prepare for positions in the tourist trade, food services, sewing centres and other fields of home economics; a three month winter course for all dairy apprentices leading to the Dairy School Diploma required for certified buttermakers, cheesemakers and operators of dairy manufacturing plants.

A 300 acre school farm and residence life are features of the Kemptville Agricultural School.

Western Ontario Agricultural School offers a practical course intended for young men who propose to return to farming. It consists of two winter courses of 20 weeks each, starting late in October and ending late in March. All subjects relating to agriculture are included in the curriculum.

Manitoba.—The Faculty of Agriculture and Home Economics of the University of Manitoba offers degree courses in agriculture and home economics as well as a two year, sub-collegiate diploma course in agriculture. Practical one season courses in agriculture and homemaking are also given at the Brandon Agricultural and Homemaking School. Graduates in agriculture from this School are admitted to the second year of the diploma course at the University.

Saskatchewan.—Saskatchewan offers a degree course in agriculture designed to meet the needs of those who intend to teach agriculture in secondary schools or colleges, to engage in research or administrative work, or to farm. Specialization is possible with permission of the faculty. Provision is made for combined courses in agriculture and arts or commerce. Postgraduate courses are available.

The Saskatchewan School of Agriculture offers a practical course intended to give sound training in farm practice and also to train young men to become rural leaders.

All courses leading to a degree in home economics require four years. The prescribed course of studies for the first two years is the same for all pupils but in the third and fourth years four types are offered: (1) for teachers, (2) for dietitians, (3) general, and (4) additional specializations. A combined course leading to a degree in arts and science and in home economics requires at least five years.

Alberta.—The University of Alberta offers a four year degree course in agriculture to students with senior matriculation or its equivalent. Students may elect a general program or major in a wide range of special courses in the fields of animal science, economics, entomology, dairying, plant science, and soils. Graduate work at the Master's level is offered in all departments and at the Doctorate level in some.

The Alberta Schools of Agriculture and Home Economics, located at Olds, Vermilion and Fairview, offer practical two year courses in agriculture and homemaking. The purpose of the schools is to train young men for farming and young women for homemaking.

The regular course in agriculture and in home economics requires two terms, each extending from late October to early April. A special two-in-one course of one term is offered to students who have completed 70 high school credits. These schools accept students who have reached 16 years of age. There are no academic requirements for regular students, although Grade VIII is desirable, and no tuition fees for residents of Alberta. Living accommodation is provided in modern dormitories with dining-room, auditorium and gymnasium facilities.

During the summer months the schools are used for agricultural meetings and conferences of organizations that are connected with agriculture. During the month of July, leadership courses, 4-H Club gatherings, farm camps and other events keep the facilities in constant operation.

British Columbia.—The Faculty of Agriculture at the University of British Columbia offers a four year general degree course in agriculture and a five year honours course. In the honours course there are 15 different fields in which a student may specialize. Work is also offered by the Faculty of Agriculture in the Faculty of Graduate Studies through which a student may proceed to the degrees of Master of Science in Agriculture and Master of Science; in a limited number of fields, work is offered at the Doctorate level. The Faculty also offers a one year or two year diploma course in occupational agriculture, adaptable to the needs of individual students.

In co-operation with various branches of the provincial Department of Agriculture and under the auspices of the University Extension Department, the Faculty of Agriculture also offers a number of short courses which vary in length from one or two days to several weeks.

Section 3.—Agricultural Irrigation and Land Conservation

Subsection 1.—Federal Projects*

PRAIRIE FARM REHABILITATION ACT

The Prairie Farm Rehabilitation Act (R.S.C. 1952, c. 213) is a rehabilitation program conceived by Parliament in 1935 to meet the problems of drought and soil drifting adversely affecting agriculture on the Canadian prairies. Existing agencies of the Government of Canada were assisted, with PFRA funds, to expand their activities in providing leadership in the immediate drought problems. In particular cultural investigations were carried out by the Experimental Farms Service to ensure the most economic use of the limited supply of soil moisture for crop production and the prevention of soil drifting farm lands that were a menace to surrounding good land. A program of water conservation to meet immediate needs was also initiated in 1935. Other services, such as the Economics Division, were assisted where special knowledge was required for rehabilitation measures.

The major activities of the PFRA Administration, with Headquarters at Regina, Sask., include the construction for the Government of Canada of all projects concerned with water conservation and land utilization in the Prairie Provinces. The five principal phases of investigational study in the field of engineering include surveys (exploration), soil mechanics, drainage, hydrology and design. These studies are undertaken by PFRA to gather the fundamental groundwork of technical and other basic information that is required before construction of any project is undertaken.

Water Conservation

Individual and Community Projects.—PFRA provides engineering and financial assistance to farmers in the construction of water conservation works as a rehabilitation measure within drought areas of the three Prairie Provinces. The amount of financial assistance awarded is largely dependent upon the type and size of the project contemplated. At all times PFRA policy is to provide assistance to farmers to rehabilitate themselves. Authority to proceed with construction is secured through the respective provincial water rights departments. Water conservation projects in this category are classified either as "individual farm projects" or as "community projects" undertaken by a group of farmers.

Individual Farm Projects.—During 20 years of operation PFRA has provided assistance to farmers to construct 51,691 individual farm projects in the form of dugouts and small dams, many of which are suitable for irrigation. The objective is to provide adequate water storage facilities where water shortages exist and to assure dependable water supplies through irrigation for domestic requirements, for stock watering and for the production of livestock feed.

The construction of these projects has extended the benefits of water widely throughout the dry areas: as a result a much larger number of farmers have been rehabilitated than would have been possible through the construction of large schemes on well defined watersheds and without the movement of settlers from their present holdings. The maintenance of valuable livestock herds has been assured through dependable water supplies on farm stock watering projects and through the development of small irrigation schemes.

Community Projects.—The development of community projects is necessarily confined within the narrow reaches of well defined watersheds where sufficient water resources are available. Where a group of farmers organizes a water users' association or a rural municipality provides leadership in an irrigation or water storage project, PFRA co-operates with the local body. The usual procedure is for the Government of Canada to assume the capital cost of storage and connecting works and the provincial body to assume the responsibility for the distribution of water to the land or along the watershed. The local body also undertakes maintenance and operation.

* Prepared under the direction of Dr. J. G. Taggart, C.B.E., Deputy Minister of Agriculture, by G. J. Matte, Associate Director of Rehabilitation.

To Mar. 31, 1955 PFRA provided the necessary assistance to construct 325 community projects, the majority of which are located on six watersheds originating in the three Prairie Provinces. The purpose of these projects is to conserve the surplus spring runoff water to supplement short supply later in the year. By maintaining stream flows farmers are assured of dependable water supplies for livestock and for irrigation use. In addition community projects provide homes for farmers moved from submarginal areas to where they can be assured a livelihood.

PFRA's responsibility for the development of large community irrigation schemes terminates with the construction of primary reservoirs and connecting canals. In special cases where the need for early returns to farmers proved imminent, PFRA has assisted further in the development of the irrigable land and has maintained a constant surveillance of the project's operations and progress. At times agreement has been reached between PFRA and the provincial government concerned whereby PFRA provides engineering and financial assistance to construct primary works and the province agrees to assist with the development of the irrigable area. Such an agreement is in effect in connection with sections of the Swift Current Irrigation project being developed in Saskatchewan.

Major Irrigation Projects.—During recent years PFRA has administered special votes by Parliament for the construction of water conservation and development projects that involve large expenditures of money. These undertakings have extended PFRA administration beyond the boundaries of the PFRA area in the three Prairie Provinces into British Columbia.

St. Mary Irrigation Project.—The St. Mary Irrigation project has been undertaken by agreement between the Government of Canada and the Province of Alberta. The Government of Canada has agreed to construct the main supply reservoirs and connecting works. The Province of Alberta has undertaken the responsibility for construction of the auxiliary reservoirs and distribution system from the main works to the land (*see also* p. 415).

The St. Mary River System is by far the most important irrigation project undertaken in Canada and, when completed, will irrigate an area of approximately 510,000 acres. Construction of the St. Mary Dam, key structure on the whole project, was completed in 1951. It stands 195 feet high and is 2,536 feet wide and creates a reservoir capable of storing 320,000 acre-feet of water. Approximately 200 miles of main canal have been built and 10,000 acres of land have been developed together with over 100 miles of the distribution canal system. Further lands are under development.

South Saskatchewan River Development.—This development in central Saskatchewan is a proposed multi-purpose project to be used for developing power and irrigation, the irrigable area lying between the town of Elbow and the city of Saskatoon. The key structure on the project will be a dam on the South Saskatchewan River located at a point midway between the towns of Outlook and Elbow.

The plan is to stabilize agriculture in the south central area of the Province where prolonged droughts have created serious economic problems for over 50,000 farmers. Full use will be made of the river's control, power, urban water supply and recreational benefits.

Bow River Irrigation Project.—The Bow River project was purchased by the Government of Canada in 1950 from the Canada Land and Irrigation Company, a private British interest. Development of this project will ensure water supply to 100,000 acres of land at present irrigated and will bring an additional 140,000 acres "under the ditch". Construction activities and the repair and enlargement of old structures have been going on rapidly. Forty-three thousand acres of new land have been brought under irrigation since 1950 and settlement is progressing rapidly.

Red Deer Irrigation Project.—The proposed Red Deer River development concerns the irrigation of an estimated 400,000 acres of land located in the east central part of Alberta. The project will consist of a dam on the Red Deer River at Ardley and about 100 miles of main canal to two main reservoirs—Craig Lake and Hamilton Lake. The dam

will contain power installations to produce power for pumping and also for sale commercially. An estimated 20,000,000 kwh. of water power will be available for sale when power is fully developed.

Irrigation Development in British Columbia.—Irrigation development in British Columbia has been undertaken in connection with the Veterans' Land Act and at the request of the British Columbia Government. Three projects (the Chase irrigation project and the Johnstone Western Canada ranching projects No. 1 and No. 2) have been completed within the South Thompson Valley area. On these projects 809 acres of land have been developed for irrigation for the benefit of approximately 40 veterans of World War II.

In the Okanagan Valley three new projects have been completed, the Westbank irrigation project and the Bankhead project near Kelowna, and the Cawston Benches project located east of the town of Keremeos. The three projects irrigate 1,782 acres of land and provide locations for 170 veterans of the second world war. The Penticton West Benches project, irrigating approximately 200 acres and accommodating 97 veterans on small holdings, was completed in 1953.

Intensive farming is practised in the Okanagan and South Thompson Valleys. The land developed for irrigation by PFRA is used mainly for the growing of small fruits and vegetables and for dairying. New projects are constantly being investigated as potential development areas.

Major Reclamation Projects.—*Riding Mountain Reclamation Project.*—At the request of the Manitoba Government extensive investigations have been undertaken by PFRA in the Riding Mountain area. A serious flood problem exists on a number of streams flowing off the north and east slopes of Riding Mountain and Duck Mountain, causing damage to a large area of valuable agricultural land. PFRA was asked to devise and carry out a plan to relieve a land area of over 252,000 acres affected by flooding.

The cost of reclamation in the area is borne jointly by the Government of Canada and the Government of Manitoba. Construction work, centred along Edwards and Mink Creeks in the Riding Mountain area, consisted of clearing and dyking stream channels and straightening the alignment of channels by building stream cutoffs and diversions. The larger portion of the work on these two streams was completed in 1951.

Stream bank erosion studies are being continued in the Riding Mountain area to stabilize stream banks and minimize erosion problems but it will be a number of years before definite results can be presented.

Assiniboine River Project.—This project is also being undertaken by PFRA, at request of the Manitoba Government, to prevent flooding on the Assiniboine River, particularly between Brandon and Virden and between Portage la Prairie and Headling where thousands of acres of valuable agricultural land have been inundated repeatedly.

All the studies undertaken are in conjunction with the Red River Basin investigation currently being carried out. Several alternative plans are being investigated to divert excess water from the Assiniboine River during flood stages. Detailed study is being given to water runoff data in the Assiniboine River Drainage Basin and the possibility of building water storage works on the headwaters of the Assiniboine River.

Saskatchewan River Reclamation Project.—Surveys and investigations were made by PFRA to determine the possibility of successfully reclaiming land for agriculture in the Pasquia area of the Saskatchewan River delta region near the town of The Pas in Manitoba. As a result an agreement was reached on Apr. 17, 1953 between the Government of Canada and the Province of Manitoba for the construction of the necessary reclamation works to protect the area from flooding and to settle about 96,000 acres of suitable land; the Government of Canada to assume the cost of building the main protective works, and the Province the costs of settlement, maintenance of works, and internal drainage. One-half of the reclaimed land is to be reserved for the resettlement of farmers from drought areas and the remainder is to be sold. Part of the proceeds from the sale of the lands will go to the

Federal Government as a partial reimbursement of the costs of building the main protective works. Construction work began early in 1953 but will take three years to complete the dykes, drains and diversion of streams.

Lillooet Valley Reclamation Project.—This project was undertaken upon agreement between the Government of Canada, the Government of British Columbia and the Pemberton Valley Reclamation District and is located in the Lillooet River Valley above and below the town of Pemberton. Its objective is to protect lands now under cultivation from flooding and to reclaim additional lands by dyking and drainage. The land so far reclaimed amounts to 14,000 acres, which allowed farmers in the district to increase their holdings and permits the settlement of hundreds of additional inhabitants.

Land Utilization

In addition to cultivation and water conservation activities rehabilitation of drought areas involves the conversion of large tracts of land (proved unsuitable for crop production) to livestock production through cultivation of a permanent grass cover, and the relocation of farmers residing thereon. To this end PFRA's Land Utilization Program has constructed 62 operating pasture units, resulting in the reclamation of 1,696,900 acres of submarginal land. During the fiscal year ended Mar. 31, 1955, summer grazing was provided for 106,278 head of livestock owned by 5,959 patrons living on lands adjacent to these pastures.

An extensive pasture improvement program is in effect on all pastures and is begun as soon as new areas are enclosed. This policy has more than doubled the 1938 average carrying capacity on pasture land. The improvement policies most extensively practised in all pastures are: (1) regrassing—since 1938 approximately 190,548 acres of land in community pastures have been regrassed; (2) development of stock watering sites—to Mar. 31, 1955, over 1,000 stock watering dams, dugouts and wells have been constructed in community pastures; and (3) pasture management and controlled grazing.

MARITIME MARSHLANDS REHABILITATION ACT

The marshlands of Prince Edward Island, Nova Scotia and New Brunswick are among the more productive soils in Canada when protected and properly cultivated. They are composed of deposits laid down by tidal waters and are for the most part adjacent to the Bay of Fundy.

The initial areas were reclaimed as early as 1630 and since that time about 80,000 acres have been protected by dykes and aboiteaux. These structures prevented flooding by tide water and permitted cultivation after drainage had been carried out.

Through a variety of circumstances—loss of cattle markets, loss of hay markets and the increase in labour costs—maintenance of the protective structures was not adequately carried out and deterioration resulted. Because the marshlands, when protected, have an important role in the agricultural economy of the provinces concerned, the Government of Canada and the Provincial Governments of Nova Scotia and New Brunswick passed legislation permitting a program of reclamation and rehabilitation of these lands. The federal Act, the Maritime Marshlands Rehabilitation Act, was passed in 1948 and complementary provincial marshland reclamation Acts were passed by the Nova Scotia and New Brunswick Governments in 1949. These Acts permitted agreements to be signed whereby the Government of Canada would construct or reconstruct the protective works, normally called dykes, aboiteaux and breakwaters, and would assume the responsibility of maintaining these works until they were turned over to the Provinces. The Federal Government is responsible also for any engineering work in connection with the complete program. The Provinces are responsible for the organization of the marsh areas, the fresh-water drainage and acquisition of any land required and for the initiation and follow-up of a suitable land-use program. Owing to the small area of marshland in Prince Edward Island no provincial legislation was considered necessary in that Province.

By Mar. 31, 1955 the Provinces had asked to have 138 areas considered for reclamation purposes. These comprised 35,045 acres of marshland in New Brunswick (including 8,058 salt or unprotected marsh), 39,829 acres in Nova Scotia (including 5,486.5 salt or unprotected marsh) and 275 acres in Prince Edward Island. The 75,149 acres of marshland in the three Provinces constitute an integral part of their estimated 436,000 acres of farm land.

Investigations to determine the advisability of constructing a large structure to eliminate the need for many miles of dyke and many aboiteaux were being carried out on the Annapolis River in Nova Scotia and on the Tantrammar and Shepody Rivers in New Brunswick. Construction on the Shepody River project was started in 1953 and is scheduled for completion in the fiscal year 1955-56.

Subsection 2.—Provincial Projects

Saskatchewan.*—The Conservation and Development Branch, established in 1947, was made responsible for: administration of water rights; irrigation development, engineering and structures; flood control and drainage; restoration of abandoned, under-utilized and misused lands; and construction of provincial community pastures outside the area covered by the agreement with PFRA and not provided for in the agreement with the Federal Government.

The Provincial Department of Agriculture's conservation and development activity in the field of agricultural rehabilitation and reclamation is based on co-operation with the Federal Government's PFRA program with which a close working arrangement is maintained. Following is a summary of the activities of the Saskatchewan Department of Agriculture as at Dec. 31, 1954:—

Water Rights.—Under the Water Rights Act 5,439 water storage projects for domestic irrigation, municipal and industrial purposes covering 429,708 acre-feet of water have been licensed, and there are 111 gauging stations being maintained to complete hydro-metric surveys and a surface water inventory. The Water Rights Office represents the Province of Saskatchewan on the engineering committee of the International Joint Commission and on the Prairie Provinces Water Board.

Irrigation Development.—By the end of 1954, 112,070 acres of topographic surveys and 148 miles of strip topographic surveys were completed on irrigation projects; 285 miles of ditch were built and 134 miles maintained; 1,317 structures were installed and 4,993 acres were levelled.

Drainage Development.—Topographic surveys covered 123,804 acres and 4,211 miles of strip topographic surveys were completed on drainage projects; 372 miles of ditch and 154 miles of road were built and 126 miles of ditch maintained; 301 structures were installed in drainage systems.

Development of Under-utilized and Misused Lands.—A total of 43,387 acres of tame perennial forage crops were seeded, mostly for fodder production; and 551 miles of fence were built or rebuilt in the establishment of departmental, municipal or co-operative pastures.

Miscellaneous Project Work.—Such projects included: regrassing about 14,775 acres; planting 545,900 trees; constructing 112 dams and dugouts (with the co-operation of groups of farmers in the area of northern Saskatchewan outside the boundaries of the PFRA program); and organizing 32 conservation areas covering 2,961,587 acres, in order to help local farmers install and maintain drainage and other conservation works.

* Prepared under the direction of W. H. Horner, Deputy Minister of Agriculture, Sask.

Pasture Development.—Through the Lands Branch of the Provincial Department of Agriculture the Province has transferred title to 1,061,749 acres and leased without change another 385,646 acres of grazing land to PFRA for the development of community pastures. Outside the PFRA program, the Province developed an improved 638,359 acres, making a total of 2,085,754 acres in all, available as community pasture land. The 78 pastures outside the PFRA program are operated by co-operative associations, by municipalities or by the Provincial Department of Agriculture; those operated by the Province provided grazing in 1954 for 11,237 cattle owned by 710 local farmers.

Development of Land for Cultivation.—Crown lands, either under cultivation or suitable for cultivation, are leased for a 33 year period. The Province may either reimburse farmers in cash for the cost of clearing and breaking virgin land or the farmers may retain crop shares equivalent in value to costs sustained. To Mar. 31, 1955 the investment of the Province, recorded by the Lands Branch of the Provincial Department of Agriculture, for land clearing and breaking amounted to \$3,939,101 and included work done in six settlement projects involving 282 farm units where 50 acres were cleared and broken before the land was leased.

Alberta.*—Sect. 69 of the Alberta Water Resources Act gives the Minister of the Department of Agriculture wide powers to investigate the water resources of the Province, and extensive surveys have been carried out to determine the distribution and extent of the available water supplied in the Province and the most beneficial use for irrigation, water power and other purposes. The Water Resources Branch of the Provincial Department of Agriculture carries out the administration of licensing of water power projects and is responsible for administering the construction work in several irrigation projects. The Branch handles licensing of irrigation projects and allocation of water for domestic and irrigation purposes. Other work includes the administration of drainage districts, co-operation on the Peace River Dug-out Project and deals with river protection projects where flooding is a problem.

In more recent years much of this work has been carried out by the Federal Government in co-operation with the Provincial Government. Stream measurement is now being done by the Hydrometric Service of the federal Department of Northern Affairs and National Resources and irrigation surveys are carried out largely by the Water Development Organization under the Prairie Farm Rehabilitation Administration. The Engineering and Water Resources Branch of the federal Department of Northern Affairs and National Resources and the power companies operating in the Province also assist in the program.

The Calgary Power Company has completed a fairly extensive and detailed water power survey of the Bow River and its tributaries and as a result the Company has constructed a number of water power reservoirs and power stations on the stream. Also, in co-operation with the Provincial Government, the Company has made a preliminary survey of Lesser Slave River and the Athabasca River from Athabasca to McMurray and is now engaged in a study on the headwaters of the North Saskatchewan River.

By Order in Council, Feb. 17, 1941 the St. Mary and Milk River Water Development Committee was set up to investigate and report on the many phases of irrigation development of southern Alberta (including water supplies available to Canada from the Waterton, Belly, St. Mary and Milk Rivers); the most feasible plan to put these waters to the most beneficial use; the benefits that such water development projects would confer on federal and provincial interests; the allocation of costs; and methods that might be adopted to finance such developments. The Committee completed a very thorough investigation and published a full and comprehensive report, not only on the projects on the international streams, but also on other projects in Alberta.

* Prepared by J. L. Reid, Secretary, Alberta Power Commission, Edmonton, Alta.

The allocation of water to the major irrigation projects in Alberta, as approved by the Prairie Provinces Water Board, are as follows:—

<i>Project</i>	<i>Acres Irrigable</i>	<i>Water Allocation in Acre-feet</i>
St. Mary-Milk Rivers Development.....	465,000	796,000
Western Irrigation District.....	50,000	85,700
Eastern Irrigation District.....	281,000	562,000
Bow River Irrigation Development.....	240,000	478,534
United Irrigation District.....	34,000	51,000
Lethbridge Northern District.....	96,135	150,000
Mountain View Irrigation District.....	3,600	6,000
Aetna Irrigation District.....	7,300	13,000
Leavitt Irrigation District.....	4,400	7,000
Macleod Irrigation District.....	5,000	8,000
Private Projects.....	70,000	80,000
TOTALS.....	1,256,435	2,237,234

The following paragraphs outline development during the 1954-55 season:—

St. Mary-Milk Rivers Development.—With the completion of the Chin Dam all 1953-54 contracts have now been completed. Owing to the construction season being short only two of the new contracts have been completed and the remainder of this work will be carried into the 1955 season. During 1955-56 all construction under the low line canal and a major portion of the part already constructed including the main canal from Ridge to Seven Persons is expected to be turned over to the appropriate Crown corporation. Expenditure will be \$1,951,000 to Mar. 31, 1955.

William Pearce Irrigation Project.—Surveys and studies were continued during the 1954-55 season and included a head water storage survey.

Bow River Development Project.—The construction phase of this project was started in the late autumn of 1953 when the contract covering Distributary "A" was let in the amount of \$116,838 and was completed in July 1954. The irrigable area of this distributary system is approximately 6,000 acres and is now ready for operation. In addition the following contracts were let: (1) Distributary "B" at a cost of \$247,416; (2) Distributary "C", \$94,944; (3) Bridge, \$93,255; and (4) Headquarters building at \$18,904, making a total of \$454,519.

The irrigable acreage under Distributaries "A", "B" and "C" is approximately 22,000 acres. This area will be ready for testing and operation by August 1955. Total expenditure to Mar. 31, 1955 was \$340,000.

Macleod Irrigation District.—Some irrigation was done on this project and the intake works were improved. The amount expended by the Provincial Government to Mar. 31, 1955 was \$6,260.

Heart River Project.—The extension of the Heart River Project resulted in water being made available to the town of McLennan; this makes water available to the Falher-Girouxville area also. The amount expended was \$45,000 to Mar. 31, 1955.

Lake Level Stabilization.—Most of the lakes in the central part of the Province reached an extremely high level owing to a high runoff cycle and a wet season in which very little evaporation took place. A control structure was placed at the outlet of Hay Lakes in Township 113, west of the 6th Meridian in the northwest corner of the Province.

River Protection and Stream Control.—Work was done on the following rivers and creeks: Milk River erosion near Warner; Crowsnest River channel improvement at Blairmore; Pincher Creek channel improvement at Pincher Creek; Old Man River channel improvement near Fort Macleod; Highwood River protection works at High River; Bow River protection work at Canmore; and the Bow River purchase of Lowery Gardens to remove residents from the flood plane at Calgary. Expenditure to Mar. 31, 1955 was \$190,099.

British Columbia.*—About 18 p.c. of the arable land in British Columbia is under cultivation and nearly all the grazing area is being utilized. The 1,200,000 acres developed give a ratio of approximately one acre per person. Within this arable area there exist an estimated 167,300 acres of irrigated land; the total acreage of irrigable land in British Columbia is estimated at 181,974 acres. About two-thirds of the irrigated area is made up of individual projects and the other third is served by the larger irrigation projects listed in Table 5.

* Prepared by A. F. Paget, Comptroller of Water Rights, Department of Lands and Forests, Victoria, B.C.

5.—Major Irrigation Projects in British Columbia, April 1955

Project	Water Supply	Irrigable Area	Irrigated Area	Average Irrigation Charge	Locality
		acres	acres	\$	
Provincial Irrigation System—					
Southern Okanagan Lands Project.....	Okanagan River.....	5,000	4,300	12.50	Okanagan Valley
Municipal Irrigation Systems—					
Penticton.....	Penticton and Ellis Creeks	2,247.07	2,135.75	17.50	Okanagan Valley
Summerland.....	Trout and Eneas Creeks..	3,452	3,407	13.42	"
Irrigation Districts—					
Balfour.....	Laird Creek.....	240	150	..	Kootenay Valley
Bankhead.....	Kelowna and Mission Creeks.....	85	85	22.00	Okanagan Valley
Barriere.....	Barriere River.....	181.02	91.47	{ "A" 4.00 "B" 2.00	North Thompson Valley
B.C. Fruitlands.....	Jameson and North Thompson Rivers.....	3,734.46	2,181.46	{ "A" 12.60 "B" 15.00 "C" 5.00	"
Black Mountain.....	Mission Creek and others..	4,245	4,245	{ "A" 15.00 "B" 13.50 "C" 5.00	Okanagan Valley
Blueberry Creek.....	Blueberry Creek.....	132.5	66	15.00	Columbia Valley
Boundary Line.....	Osoyoos Lake.....	96	96	13.50	Okanagan Valley
Brent Davis.....	Mission Creek.....	480	405	5.85	"
Cawston.....	Similkameen River.....	643	481	14.00	"
Chase.....	Chase Creek.....	639	625	2.50	South Thompson Valley
Covert.....	Fourth of July Creek.....	280	280	{ 18.00 16.30	Near Grand Forks
Darfield.....	Lindquist Creek.....	363	200	..	North Thompson Valley
East Creston.....	Arrow Creek.....	1,561.7	1,377.7	4.02	Kootenay Valley
East Osoyoos.....	Osoyoos Lake.....	329.14	267.16	{ "A" 25.00 "B" 10.00	Okanagan Valley
Ellison.....	Kelowna Creek.....	661.97	948	..	"
Fairview.....	Similkameen River.....	617	597	23.40	Near Princeton
Girouard.....	B. X. (Swan Lake) Creek..	99	45	6.00	Okanagan Valley
Glenmore.....	Kelowna Creek.....	1,851	1,496	13.00	"
Grand Forks.....	Kettle River.....	2,500	2,000	7.05	Kettle Valley
Heffley.....	North Thompson River....	1,648	1,648	6.00	North Thompson Valley

5.—Major Irrigation Projects in British Columbia, April 1955—concluded

Project	Water Supply	Irrigated Area	Irrigated Area	Average Irrigation Charge	Locality
		acres	acres	\$	
Irrigation Districts—concl.					
Kaleden.....	Marron River and Shatford Creek.....	538.2	529	22.85	Okanagan Valley
Keremeos.....	Ashnola River, etc.....	1,120	940	14.40	Similkameen Valley
Lakeview.....	Lambly (Bear) Creek.....	1,100	852.55	..	Okanagan Valley
Malcolm Horie.....	Joseph Creek.....	220	150	3.00	Near Cranbrook
Merritt Central.....	Coldwater River.....	125	100	2.50	Nicola Valley
Naramata.....	Lequime, Naramata and Robinson Creeks.....	977.7	977.7	19.00	Okanagan Valley
Okanagan Falls.....	Shuttleworth Creek.....	530	209	10.00	"
Okanagan Mission.....	Bellevue Creek and Okanagan Lake.....	446	366	17.00	"
Osoyoos.....	Haynes Creek, etc.....	203.32	88.95	20.97	"
Oyama.....	Long Lake.....	362.13	362.13	28.50 ¹	"
Peachland.....	Peachland Creek.....	771	440	18.00	"
Renata.....	Dog Creek.....	160	150	15.00	Columbia Valley
Robson.....	Pass Creek.....	262.4	250	24.00 ¹	"
Scotty Creek.....	Scotty Creek.....	823.69	823.69	..	Okanagan Valley
South East Kelowna.....	Hydraulic Creek.....	2,897.94	2,897.94	15.50	"
South Vernon.....	Vernon Creek.....	287	216	8.60	"
Tod Hill.....	South Thompson River.....	140	140	..	South Thompson Valley
Trout Creek.....	Trout Creek.....	400	311	12.60	Okanagan Valley
Vermilion.....	Kindersley Creek.....	—	364.44	6.25	Columbia Valley
Vernon.....	Coldstream, Paradise Creeks, etc.....	12,000	7,858.47	6.50 ²	Okanagan Valley
Vinsulla.....	Knouff Creek, etc.....	298	155	4.50 ³	
Westbank.....	Powers Creek.....	802	780	3.50	
West Bench.....	Okanagan River.....	164	60	15.30	"
Winfield and Okanagan Centre.....	Vernon Creek.....	1,897.03	1,860.25	15.16	"
Wynndel.....	Duck Creek.....	516	490	4.50	Kootenay Valley
Irrigation Companies—					
Columbia Valley Irrigated Fruitlands Co.....	Bruce Creek.....	2,000	367	3.50	Columbia Valley
Wood Lake Water Co.....	Oyama Creek.....	832	832	7.50	Okanagan Valley

¹ Includes domestic and administrative charges.² Water charge.³ Tax.

Section 4.—Statistics of Agriculture*

The collection, compilation and publication of statistics relating to agriculture is a responsibility of the Dominion Bureau of Statistics. Valuable information is obtained through the Decennial Census of Canada and the Census of the Prairie Provinces. Complete details of the 1951 Census of Agriculture may be found in Volume VI of the *Census of Canada, 1951*.†

The Bureau also collects and publishes primary and secondary statistics of agriculture on an annual and monthly basis. The primary statistics relate mainly to the reporting of crop conditions, crop and livestock estimates, values of farm lands, wages of farm labour and prices received by farmers for their products. The secondary statistics relate to the marketing of grain and livestock, dairying, milling and sugar industries and cold storage holdings.

In the collection of annual and monthly statistics the Federal Department of Agriculture and the Provincial Departments of Agriculture, as well as such agencies as the Board of Grain Commissioners and the Canadian Wheat Board, co-operate with the Bureau. Many thousands of farmers throughout Canada also send in reports voluntarily.

* Revised in the Agriculture Division, Dominion Bureau of Statistics.

† Copies obtainable from the Dominion Statistician or the Queen's Printer, Ottawa, Ont.

The figures for 1950 to 1954 (except for 1951 Census data) contained in this Section do not include estimates for Newfoundland. Agriculture plays a relatively minor part in Newfoundland's economy, commercial production of most products being quite small.

Subsection 1.—Cash Income from the Sale of Farm Products 1954

It is estimated that during 1954 Canada's farm cash income from the sale of farm products (excluding Newfoundland) amounted to \$2,377,800,000; this includes participation payments made on previous years' western grain crops. This estimate is 14.3 p.c. below the revised figures of \$2,776,000,000 for 1953 and 16.5 p.c. below the alltime high of \$2,849,300,000 established in 1952. Nearly all the reduction in farm cash income took place in the Prairie Provinces and was the result largely of a substantial decrease in the marketings of grains, particularly wheat, and lower prices for both wheat and barley. The declines in these provinces ranged from about 15 p.c. in Manitoba to approximately 36 p.c. in Saskatchewan. Income in Ontario, the only other province with reduced receipts in 1954, decreased by only 2 p.c. Gains were registered for the remaining provinces ranging from less than 1 p.c. in British Columbia to about 5 p.c. in Prince Edward Island. Supplementary payments made to western farmers under the provisions of the Prairie Farm Assistance Act amounted to \$2,400,000 in 1954 as compared with \$1,600,000 in 1953 and \$5,100,000 in 1952.

Field Crops.—The decline in income from the sale of wheat from \$654,100,000 in 1953 to \$322,600,000 in 1954 constituted the greatest decline for any single commodity. Farmers' deliveries during the year totalled about 288,000,000 bu., little more than one-half the amount delivered during the previous year. Wheat prices too were below the 1953 level. Wheat participation payments, which were \$97,400,000 in 1954 compared with \$125,400,000 in 1953 included the 10.9 cts. per bushel final payment on marketings of the 1952 crop and the 10 cts. per bushel interim payment on marketings of the 1953 crop. Income from the sale of coarse grains was also substantially below that of a year earlier as a result of lower marketings of oats and barley and lower prices for barley. In addition participation payments for these two grains were down significantly in 1954. Smaller returns were also obtained from the sale of rye, corn, potatoes, vegetables and sugar beets, but some increase in income was realized from the sale of flaxseed, hay, tobacco, and clover and grass seed.

Livestock.—In contrast to the generally lower income from the sale of field crops receipts from the sale of livestock during 1954 amounted to \$705,100,000, about 7 p.c. above the previous year's estimate. Increased marketings of all classes of livestock contributed to this gain as well as the higher prices received for hogs. Prices for other classes of livestock averaged below the 1953 level.

Dairy Products.—Income from dairy products in 1954 is estimated at a new record of \$426,200,000 or 2.5 p.c. above the previous high level of \$415,900,000 established a year earlier. Increased production more than offset slightly lower prices and is attributed to a continued increase in the milk cow population and excellent pasture conditions throughout most of the growing season.

Poultry and Eggs.—A decrease of about 18 p.c. in egg sales receipts represented the greatest reduction in income of any of the livestock products. Substantially lower prices more than offset high marketings to give a total income of \$112,200,000 in 1954 as compared with \$136,300,000 in 1953. Income from poultry meat however at \$136,500,000 was slightly above the 1953 receipts of \$134,200,000.

6.—Cash Income from the Sale of Farm Products by Source 1952-54

(Exclusive of Newfoundland)

NOTE.—Figures for 1926-48 will be found in DBS *Reference Paper No. 25* (Part II). Figures for 1949 are given in the 1952-53 Year Book, p. 407 and for 1950-51 in the 1954 edition, p. 402.

Item	1952	1953	1954
	\$'000	\$'000	\$'000
Grains, Seeds and Hay	1,081,153	1,062,852	630,426
Wheat.....	587,049	654,109	322,591
Wheat participation payments.....	165,708	125,353	97,393
Oats.....	70,716	62,744	51,633
Oats participation payments.....	24,747	10,950	5,631
Barley.....	123,272	110,471	85,979
Barley participation payments.....	32,842	35,876	9,834
Rye.....	24,331	13,611	11,789
Flax.....	26,456	18,886	20,044
Corn.....	13,661	19,405	13,516
Clover and grass seed.....	10,994	9,599	10,080
Hay and clover.....	1,377	1,848	1,936
Vegetables and Other Field Crops	218,932	165,568	167,710
Potatoes.....	69,140	31,844	29,907
Vegetables.....	68,328	60,127	58,830
Sugar beets.....	14,792	13,621	11,973
Tobacco.....	66,672	59,976	67,000
Livestock	832,129	792,647	841,535
Cattle and calves.....	348,042	349,648	372,470
Sheep and lambs.....	9,948	9,794	9,581
Hogs.....	337,823	298,972	323,027
Poultry.....	136,316	134,233	136,457
Dairy products	398,996	415,905	426,188
Fruits	42,456	45,754	46,380
Other Principal Farm Products	125,013	147,897	125,433
Eggs.....	109,499	136,340	112,222
Wool.....	2,168	2,310	2,286
Honey.....	5,114	4,289	3,446
Maple products.....	8,232	4,958	7,479
Miscellaneous farm products	52,032	50,461	44,634
Forest products sold off farms	87,464	83,637	83,336
Fur farming	11,135	11,282	12,192
Totals, Cash Income from Farm Products	2,849,310	2,776,003	2,377,834
Supplementary payments ¹	5,131	1,572	2,427
Totals, Cash Income	2,854,441	2,777,575	2,380,261

¹ Includes payments made under the Prairie Farm Assistance Act; other government subsidies have been included in cash income from individual commodities.

7.—Cash Income from the Sale of Farm Products by Province 1952-54

NOTE.—Figures for 1926-45 will be found in *DBS Reference Paper No. 25* (Part II). Figures for 1946-49 are given in the 1952-53 Year Book, p. 408, and for 1950-51 in the 1954 edition, p. 403.

Province	1952	1953	1954
	\$'000	\$'000	\$'000
Newfoundland.....	—	—	—
Prince Edward Island.....	31,998	22,832	24,031
Nova Scotia.....	40,207	41,319	43,017
New Brunswick.....	53,445	46,141	48,419
Quebec.....	417,377	393,251	407,947
Ontario.....	736,887	718,862	704,544
Manitoba.....	249,634	220,038	186,508
Saskatchewan.....	710,738	742,236	472,297
Alberta.....	505,070	486,475	385,694
British Columbia.....	103,954	104,849	105,377
Totals.....	2,849,310	2,776,003	2,377,834

Net Income of Farm Operators from Farming Operations 1954.—The year 1954 witnessed a sharp decline in farm net income largely as a result of poor crops in Western Canada. Compared with the estimate for 1953 of \$1,699,600,000, the 1954 figure of \$1,125,600,000 is down by about 33 p.c. The record high level of \$2,154,500,000 was reached in 1951 and the average for the postwar years (1946-1953) was \$1,611,600,000.

The reduction in the 1954 net income was the result of a decrease of approximately 19 p.c. in gross farm income, offsetting by far a decline of about 2 p.c. in farm operating expenses and depreciation charges. Gross farm income in 1954 at \$2,624,700,000 compares with the all time high of \$3,578,500,000 reached in 1951 and the 1953 estimate of \$3,226,700,000. The drop from the 1953 level was the result of very substantial declines in cash income from the sale of farm products and the value of year-end changes in farm-held inventories of grains. Income in kind for 1954 decreased by about 2 p.c. from 1953; this item includes the value of that produce grown by farm operators and consumed in the farm home plus an imputed rental value of the farm dwelling.

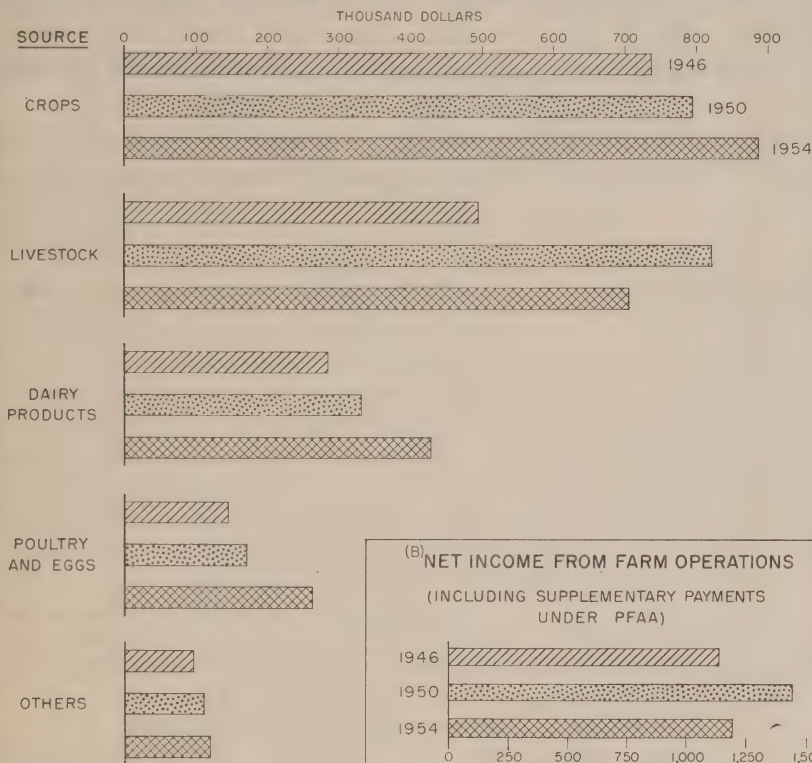
8.—Net Income of Farm Operators from Farming Operations 1952-54

(Exclusive of Newfoundland)

Item	1952	1953	1954
	\$'000	\$'000	\$'000
1. Cash income from sale of farm products.....	2,849,310	2,776,003	2,377,834
2. Income in kind.....	413,496	400,445	391,986
3. Value of changes in inventory.....	237,742	50,263	-145,088
4. Gross income (Items 1+2+3).....	3,500,548	3,226,711	2,624,732
5. Operating expenses.....	1,369,860	1,295,925	1,255,826
6. Depreciation charges.....	212,346	232,753	245,692
7. Total operating and depreciation (Items 5+6).....	1,582,206	1,528,678	1,501,518
8. Net income, excluding supplementary payments (Items 4-7).....	1,918,342	1,698,033	1,123,214
9. Supplementary payments.....	5,131	1,572	2,427
10. Net income of farm operators from farming operations (Items 8+9)¹.....	1,923,473	1,699,605	1,125,641

¹ Includes estimated rental value of farm homes and supplementary payments made under the provisions of the Prairie Farm Assistance Act.

FARM INCOME IN CANADA 1946-54
(A) CASH INCOME FROM SALE OF FARM PRODUCTS
(INCLUDING SUPPLEMENTARY PAYMENTS UNDER PFAA)



9. -Net Income of Farm Operators from Farming Operations by Province 1952-54

NOTE.—Net income includes estimated rental value of farm homes and supplementary payments made under the provisions of the Prairie Farm Assistance Act.

Province	1952	1953	1954
	\$'000	\$'000	\$'000
Newfoundland.....	—	—	—
Prince Edward Island.....	20,921	12,945	12,786
Nova Scotia.....	19,382	21,532	19,912
New Brunswick.....	36,689	28,653	29,531
Quebec.....	277,144	275,115	270,758
Ontario.....	447,629	434,121	381,081
Manitoba.....	156,806	115,380	72,547
Saskatchewan.....	565,514	467,608	126,453
Alberta.....	359,849	300,773	177,037
British Columbia.....	39,539	43,478	35,536
Totals	1,923,473	1,699,605	1,125,641

Value of Farm Lands.—The average value of occupied farm lands in Canada for 1954 is reported at \$50 per acre as compared with \$51 per acre for 1953. This decline in the average farm land value for Canada is the first since 1940. The direction of change in the provincial farm land values was not uniform for all provinces. Lower land values were reported for the Prairie Provinces, Prince Edward Island and New Brunswick. In Nova Scotia no change was recorded. For the remaining provinces higher values prevailed.

10.—Average Values per Acre of Occupied Farm Lands by Province, Selected Years 1910-54

NOTE.—Figures include unimproved lands and buildings.

Province	1910	1920	1929	1939	1941	1943	1945	1947	1949	1950	1951	1952	1953	1954
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Newfoundland.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Prince Edward Island.....	31	49	43	35	34	37	43	47	52	55	60	61	61	59
Nova Scotia.....	25	43	36	33	31	35	41	46	49	52	55	54	54	54
New Brunswick.....	19	35	35	29	25	33	40	44	45	51	52	51	54	52
Quebec.....	43	70	55	44	50	58	57	61	59	66	74	76	77	81
Ontario.....	48	70	60	46	45	56	57	64	71	75	90	92	98	101
Manitoba.....	29	39	26	17	17	19	21	27	36	39	42	43	49	45
Saskatchewan.....	22	32	25	15	14	15	18	21	24	26	28	29	30	29
Alberta.....	24	32	28	16	16	18	20	25	33	35	37	37	43	41
British Columbia.....	74	175	90	60	60	62	67	75	84	87	92	93	99	102
Canada Average¹.....	33	48	37	25	25	28	30	35	40	43	47	48	51	50

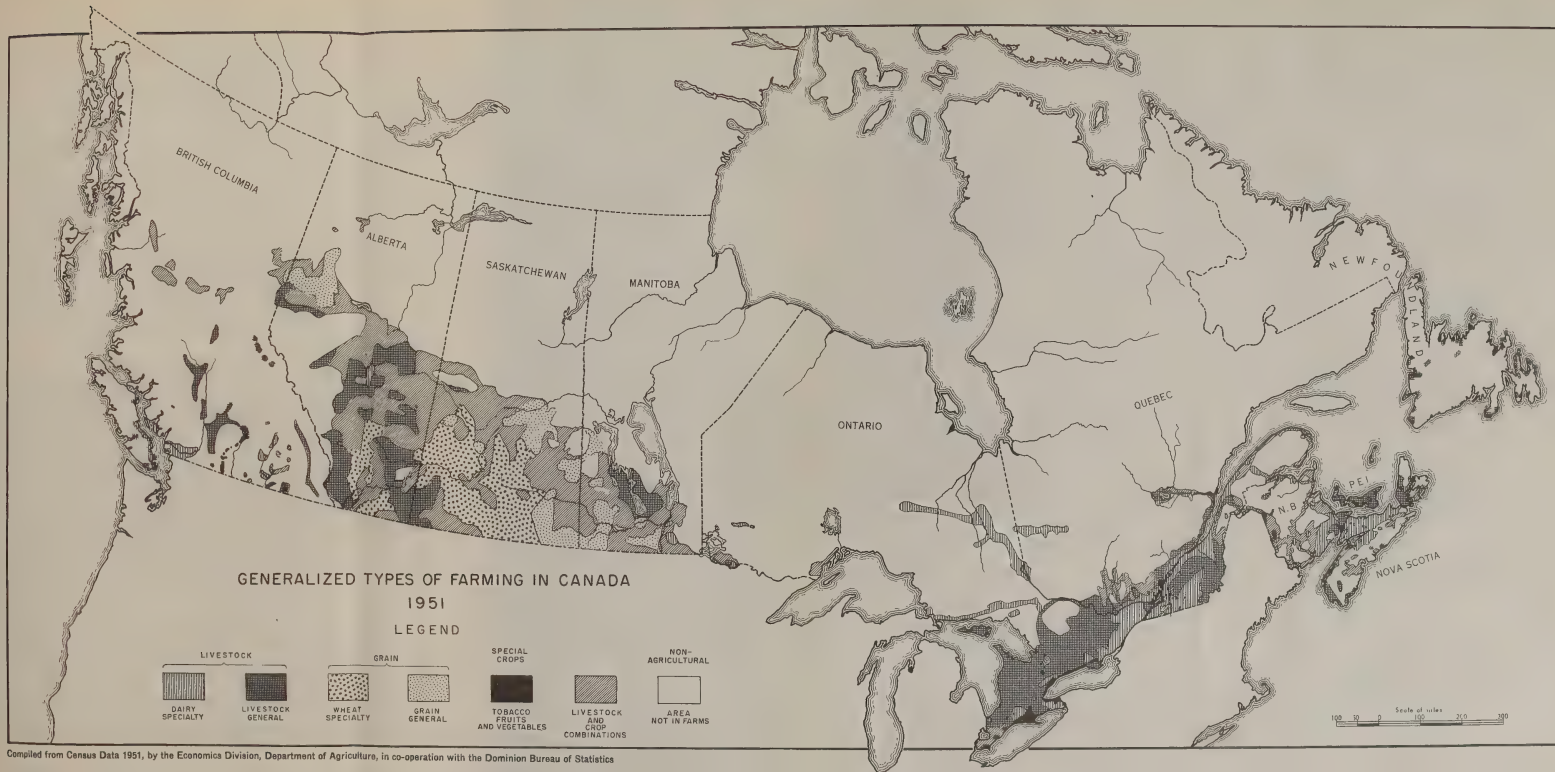
¹ The Canada average is determined by weighting the provincial averages by the area of occupied farm land in each province.

Subsection 2.—Volume of Agricultural Production

The index of physical volume of agricultural production in Canada (excluding Newfoundland) for 1954 is estimated at 114.3 (1935-39=100). This figure compares with the revised index of 156.2 for 1953 and the alltime high of 166.0 established in 1952.

The drop in the index of approximately 42 points, or about 27 p.c., between 1953 and 1954 was largely attributable to the much smaller western grain crops, particularly wheat. To a lesser degree a reduced potato crop also contributed to the decline. Offsetting these reductions in output to some extent were gains in production recorded for most of the remaining agricultural products, especially livestock, dairy products and poultry and eggs.

On a provincial basis declines occurred in all provinces except Prince Edward Island and Nova Scotia. The most significant reduction in over-all production occurred in the Prairie Provinces almost entirely as a result of the substantially smaller grain crops in 1954 as compared with 1953. Smaller outputs of potatoes and grains accounted for lesser declines in Quebec, Ontario and British Columbia. A reduced potato crop more than offset increased production of other commodities in New Brunswick. The smaller potato crops of Prince Edward Island and Nova Scotia were more than counterbalanced by increased outputs of livestock, dairy products, and poultry and eggs in the former province and by dairy products and poultry and eggs in the latter.



11.—Index Numbers of Physical Volume of Agricultural Production by Province 1945-54

(1935-39=100. Exclusive of Newfoundland)

NOTE.—For a description of this index, methods and coverage, see DBS *Quarterly Bulletin of Agricultural Statistics* for April-June, 1952. Figures for 1935-44 are given in the 1950 Year Book, p. 420.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
1945.....	121.3	80.7	106.7	100.7	107.6	116.8	129.3	97.6	131.1	110.9
1946.....	123.6	100.3	119.6	112.2	117.6	139.1	138.7	122.7	151.9	125.6
1947.....	128.9	86.7	119.0	102.6	107.7	122.1	128.2	115.8	146.4	116.0
1948.....	133.3	91.8	124.3	121.6	119.0	143.8	131.8	118.5	143.7	125.1
1949.....	158.8	105.1	145.8	126.4	124.9	125.7	128.1	98.1	148.7	122.3
1950.....	148.2	105.2	140.2	136.3	128.1	137.8	168.3	121.8	134.2	137.8
1951.....	119.5	87.7	110.4	139.0	128.6	146.4	218.1	157.1	126.9	154.7
1952.....	142.3	80.6	109.4	124.7	119.6	162.5	267.4	174.8	133.3	166.0
1953.....	142.8	80.6	121.6	132.9	129.5	132.1	230.2	157.5	137.6	156.2
1954.....	144.6	86.0	114.4	127.9	128.0	101.9	94.7	108.9	137.2	114.3

Subsection 3.—Field Crops

After an unprecedented three year period of unusually high and in some instances record field crop production, Canadian farmers in 1954 experienced what was in some respects one of the most difficult and disappointing seasons in many years. The effect of a late spring on delaying seeding in many sections of the country was further aggravated by excessive rainfall particularly in the Prairie Provinces, eastern Ontario and Quebec. Plant growth however was generally rapid and rank as the result of abundant moisture and crop progress early in August pointed to the possibility of western grain crops being substantially above average for the fourth consecutive season. However the rapid development of the most severe rust epidemic in western Canada's history, together with serious sawfly infestation, widespread rain, wind and hail damage and September frosts and snow caused rapid deterioration of crop prospects. As a result, average per acre yields of all crops except tame hay, dry beans and rapeseed were below those of 1953. Among the crops with the sharpest declines in production from 1953 were spring wheat and all rye (spring and fall), each less than one-half the size of the 1953 crop; barley, down by one-third; and oats and potatoes, each down by one-quarter from 1953. Production of several other crops, including flaxseed, mixed grains, grain corn, dry beans, soybeans, sunflower seed, rapeseed, sugar beets and tame hay, was above 1953 levels largely as the result of increased acreages.

Although adverse weather conditions throughout the planting, growing and harvesting seasons were experienced in practically all parts of the country, the heaviest damage was suffered by Prairie grain farmers. For many however the effects of the poor 1954 harvest were offset to some extent by reserve stocks of grain which had accumulated from the record or near record crops of the three preceding years. Despite abnormally heavy marketings during this period Canadian farm stocks of wheat, barley and rye at July 31, 1954 were the highest on record for the end of a crop-year and those of oats and flaxseed had been exceeded only once before. Although marketings and exports of Canadian grain during the 1953-54 crop-year did not continue the record breaking levels of the preceding two crop-years they were well above average in total volume. Marketings of the five major grains in Western Canada in 1953-54 totalled about 610,100,000 bu. compared with

an estimated 844,900,000 bu. in 1952-53 and the ten year (1943-44-1952-53) average of 557,900,000 bu. Combined exports of the same grains (including wheat flour, rye flour, rolled oats and oatmeal in grain equivalent) amounted to 437,900,000 bu. as against 582,800,000 bu. in 1952-53 and the ten year average of 381,800,000 bu.

The gross value of production of principal field crops on Canadian farms in 1953, based on average prices received by farmers throughout the 1953-54 crop-year, was estimated at \$1,806,000,000. Although this total was below the record breaking totals of \$2,306,000,000 in 1952 and \$2,120,000,000 in 1951 it compares favourably with total values prior to those two years. Complete data on the value of Canada's 1954 crops will not be available until several months after the close of the 1954-55 crop-year. However the gross value is expected to be well below that of 1953 largely as the result of the unusually adverse weather conditions on both yield and quality of the 1954 crops. Estimates of the value of the 1954 crops, based on average prices received by farmers during the crop-year ended July 31, 1955, will be published in one of the regularly scheduled Dominion Bureau of Statistics crop reports and in the *Quarterly Bulletin of Agricultural Statistics*.*

* The March 1956 *Quarterly Bulletin*, available at press time, carries further details on 1954 crop production and shows that the gross value of production of all principal field crops in 1954 amounted to \$1,243,000,000—not including the final payment on western Canadian wheat delivered to the 1954-55 pool.

12.—Acreages, Yields and Prices of Principal Field Crops 1951-54 and Five Year Average 1945-49

(Exclusive of Newfoundland)

Crop and Year	Area	Yield per Acre	Pro-duction	Average Price	Total Value ¹	Crop and Year	Area	Yield per Acre	Pro-duction	Average Price	Total Value ¹
	'000 acres	bu.	'000 bu.	\$ per bu.	\$'000		'000 acres	bu.	'000 bu.	\$ per bu.	\$'000
Wheat—						Mixed Grains—					
Av. 1945-49 ..	24,558	14.8	363,131	1.62	587,991	Av. 1945-49 ..	1,226	35.9	44,046	0.84	36,988
1951	25,254	21.9	553,646	1.55	856,724	1951	1,524	45.0	68,530	1.01	69,506
1952	26,163	26.8	701,922	1.59	1,112,772	1952	1,570	40.3	63,217	0.97	61,015
1953	25,513	24.1	613,962	1.33	817,769	1953	1,445	43.0	62,188	0.84	52,409
1954	24,267	12.7	308,909	1.13	349,570	1954	1,633	37.6	61,454	0.83	51,078
Oats—						Flaxseed—					
Av. 1945-49 ..	11,513	28.4	326,437	0.67	219,370	Av. 1945-49 ..	1,164	8.2	9,502	3.91	37,188
1951	11,897	41.0	488,125	0.76	369,237	1951	1,158	8.5	9,898	3.90	38,620
1952	11,062	42.2	466,793	0.66	309,467	1952	1,130	10.9	12,261	3.16	38,749
1953	9,830	41.4	406,951	0.62	253,904	1953	972	10.2	9,912	2.44	24,213
1954	10,161	30.2	306,793	0.67	206,432	1954	1,206	9.3	11,238	2.54	28,561
Barley—						Potatoes—					
Av. 1945-49 ..	6,569	21.5	141,171	0.95	133,431	Av. 1945-49 ..	417	159.0	66,173	1.10	72,522
1951	7,840	31.8	245,212	1.10	269,943	1951	285	169.7	48,361	2.03	98,088
1952	8,477	34.4	291,389	1.06	307,763	1952	297	202.4	60,071	1.68	100,784
1953	8,911	29.4	262,065	0.86	224,580	1953	323	209.1	67,545	0.78	52,977
1954	7,856	22.3	175,509	0.89	155,577	1954	300	172.8	51,783	1.45	75,028
Rye—						Tame Hay—		ton	'000 tons	\$ per ton	
Av. 1945-49 ..	1,192	11.1	13,182	1.85	24,362	Av. 1945-49 ..	10,535	1.59	16,729	14.99	250,847
1951	1,127	15.7	17,648	1.56	27,577	1951	10,538	1.85	19,488	15.26	297,290
1952	1,274	19.5	24,833	1.38	34,267	1952	10,679	1.79	19,083	14.24	271,687
1953	1,494	19.3	28,775	0.82	23,484	1953	10,702	1.84	19,650	13.71	269,489
1954	850	16.7	14,176	0.91	12,908	1954	10,802	1.81	19,549	13.99	273,436

¹ Gross value of farm production; does not represent cash income from sales.

13.—Acreages, Production and Values of Principal Field Crops by Province 1953 and 1954 and Five Year Average 1945-49

(Exclusive of Newfoundland)

Province	Area			Total Production			Gross Farm Value ¹	
	Average 1945-49 ¹	1953	1954	Average 1945-49 ¹	1953	1954	Average 1945-49 ¹	1953
	'000 ac.	'000 ac.	'000 ac.	'000 bu.	'000 bu.	'000 bu.	\$'000	\$'000
Wheat	24,558	25,513	24,267	363,211	613,962	308,909	587,991	817,769
Prince Edward Island.....	2	3	3	54	75	79	84	131
Nova Scotia.....	1	1	1	23	25	26	34	45
New Brunswick.....	2	3	3	46	70	74	77	119
Quebec.....	12	11	11	206	241	211	313	415
Ontario.....								
(a) winter wheat.....	621	732	710	18,100	26,206	24,140	28,358	39,047
(b) spring wheat.....	40	34	31	1,167	740	629	1,866	1,103
Manitoba.....	2,420	2,208	2,035	48,000	46,000	26,000	79,827	62,560
Saskatchewan.....	14,438	16,100	15,540	185,000	375,000	151,000	301,085	498,750
Alberta.....	6,915	6,340	5,862	108,000	163,000	105,000	171,983	211,900
British Columbia.....	106	81	70	2,615	2,605	1,750	4,305	3,699
Oats	11,513	9,830	10,161	326,696	406,951	306,793	219,370	253,904
Prince Edward Island.....	110	106	98	4,073	4,770	3,806	3,113	2,957
Nova Scotia.....	64	56	55	2,221	2,399	2,129	1,891	2,159
New Brunswick.....	178	152	153	6,136	6,840	4,896	4,799	5,198
Quebec.....	1,377	1,380	1,371	32,961	42,750	31,122	26,716	36,363
Ontario.....	1,503	1,548	1,685	56,770	68,576	64,873	42,078	49,375
Manitoba.....	1,460	1,412	1,510	49,000	53,000	36,000	31,402	30,740
Saskatchewan.....	4,084	2,721	2,851	96,000	111,600	86,000	60,134	62,160
Alberta.....	2,645	2,353	2,354	75,000	112,000	74,000	46,148	61,600
British Columbia.....	93	98	84	4,535	5,586	3,967	3,088	3,352
Barley	6,569	8,911	7,856	140,711	262,065	175,509	133,431	224,580
Prince Edward Island.....	6	5	4	169	168	118	172	168
Nova Scotia.....	6	3	2	153	105	78	172	122
New Brunswick.....	11	9	9	312	338	255	346	365
Quebec.....	84	56	53	1,869	1,582	998	2,006	1,819
Ontario.....	234	171	144	7,477	6,156	4,723	7,148	6,587
Manitoba.....	1,766	2,365	2,202	42,000	61,000	44,000	40,907	55,510
Saskatchewan.....	2,354	2,745	2,313	43,000	82,000	53,000	39,813	68,060
Alberta.....	2,088	3,489	3,054	45,000	108,000	70,000	42,121	89,640
British Columbia.....	21	68	75	731	2,716	2,337	746	2,309
Fall Rye	863	1,031	672	9,882	21,225	11,922	18,272	17,515
Quebec.....	4	3	3	59	55	43	77	68
Ontario.....	86	75	90	1,771	1,710	1,854	2,900	2,001
Manitoba.....	40	120	79	671	2,500	1,400	1,140	2,175
Saskatchewan.....	531	500	315	4,323	9,300	5,000	8,394	7,440
Alberta.....	201	328	181	3,029	7,500	3,525	5,710	5,700
British Columbia.....	2	6	5	29	160	100	50	131
Spring Rye	329	463	178	3,299	7,550	2,254	6,090	5,969
Manitoba.....	10	15	6	142	250	79	255	217
Saskatchewan.....	192	316	138	1,917	5,100	1,700	3,522	4,080
Alberta.....	127	132	34	1,240	2,200	475	2,314	1,672
All Rye	1,192	1,494	850	13,182	28,775	14,176	24,362	23,484
Quebec.....	4	3	3	59	55	43	77	68
Ontario.....	86	75	90	1,771	1,710	1,854	2,900	2,001
Manitoba.....	50	135	84	813	2,750	1,479	1,395	2,392
Saskatchewan.....	723	816	453	6,240	14,400	6,700	11,916	11,520
Alberta.....	328	460	215	4,269	9,700	4,000	8,024	7,372
British Columbia.....	2	6	5	29	160	100	50	131
Peas	83	60	50	1,375	1,210	880	3,811	2,402
Quebec.....	7	3	4	91	55	48	339	234
Ontario.....	26	10	10	468	202	140	1,337	525
Manitoba.....	21	37	25	366	777	450	916	1,127
Saskatchewan.....	7	1	1	109	18	19	294	47
Alberta.....	16	7	8	215	100	144	598	330
British Columbia.....	6	2	2	126	58	79	326	139

¹ 1954 total values for eight principal field crops are contained in Table 12; the total values for the remaining field crops and the values by province may be obtained from the March 1956 *Quarterly Bulletin of Agricultural Statistics*.

13.—Acreages, Production and Values of Principal Field Crops by Province 1953 and 1954 and Five Year Average 1945-49—continued

Province	Area			Total Production			Gross Farm Value ¹	
	Average 1945-49 ^r	1953	1954	Average 1945-49 ^r	1953	1954	Average 1945-49 ^r	1953
	'000 ac.	'000 ac.	'000 ac.	'000 bu.	'000 bu.	'000 bu.	\$'000	\$'000
Beans	81	69	73	1,356	1,220	1,028	5,024	5,034
Quebec.....	2	1	1	30	18	13	124	82
Ontario.....	79	68	72	1,326	1,202	1,015	4,900	4,952
Soybeans	73	216	254	1,491	4,406	4,953	3,490	10,795
Ontario.....	73	216	254	1,491	4,406	4,953	3,490	10,795
Buckwheat	179	148	131	3,642	3,372	2,316	3,896	3,505
New Brunswick.....	11	7	7	267	221	177	325	248
Quebec.....	56	41	45	1,116	997	749	1,279	1,196
Ontario.....	109	77	55	2,212	1,740	994	2,229	1,705
Manitoba.....	3	23	24	48	414	396	62	356
Mixed Grains	1,226	1,445	1,633	44,046	62,188	61,454	36,988	52,409
Prince Edward Island...	48	70	79	1,878	3,229	3,148	1,590	2,583
Nova Scotia.....	4	9	10	139	404	394	135	424
New Brunswick.....	3	7	8	97	324	272	79	308
Quebec.....	189	202	209	4,921	6,565	5,102	4,852	7,222
Ontario.....	916	1,017	1,130	35,438	46,884	47,573	29,194	38,445
Manitoba.....	18	33	38	496	1,112	984	364	534
Saskatchewan.....	13	23	36	255	684	712	192	486
Alberta.....	33	81	120	736	2,821	3,084	512	1,975
British Columbia.....	2	3	3	86	165	125	70	132
Flaxseed	1,164	972	1,206	9,502	9,912	11,238	37,188	24,213
Ontario.....	39	41	19	463	537	188	1,879	1,412
Manitoba.....	449	420	444	4,267	3,800	4,000	16,732	9,348
Saskatchewan.....	526	342	518	3,360	3,500	4,800	12,872	8,540
Alberta.....	146	164	215	1,373	2,000	2,150	5,555	4,740
British Columbia.....	4	5	10	39	75	100	149	173
				'000 lb.	'000 lb.	'000 lb.		
Sunflower Seed	29	4	20	16,312	3,960	14,000	952	198
Manitoba.....	29	4	20	16,312	3,960	14,000	952	198
Rapeseed	40	29	40	29,663	25,875	28,900	1,746	923
Manitoba.....	—	4	9	—	3,375	7,200	—	135
Saskatchewan.....	40	25	31	29,663	22,500	21,700	1,746	788
				'000 bu.	000 bu.	'000 bu.		
Shelled Corn	244	362	418	11,038	20,854	22,339	14,056	28,199
Ontario.....	231	347	400	10,734	20,404	21,920	13,726	27,749
Manitoba.....	13	15	18	304	450	419	330	450
Potatoes	417	332	298	66,173	67,545	51,783	72,522	52,977
Prince Edward Island...	46	41	40	9,988	11,190	10,125	7,746	5,371
Nova Scotia.....	16	12	11	2,945	2,864	2,497	3,436	2,434
New Brunswick.....	61	48	46	14,550	13,988	10,123	13,241	6,015
Quebec.....	118	100	92	14,927	16,600	11,408	17,485	14,110
Ontario.....	92	63	56	13,339	11,883	9,492	16,877	12,715
Manitoba.....	21	19	17	2,342	3,196	2,308	2,371	2,013
Saskatchewan.....	24	13	11	2,050	1,677	1,054	2,570	2,180
Alberta.....	23	15	15	2,799	2,757	1,900	3,706	3,529
British Columbia.....	16	11	10	3,233	3,390	2,876	5,089	4,610
				'000 tons	000 tons	'000 tons		
Field Roots	72	43	43	714	477	440	12,845	7,192
Prince Edward Island...	8	7	6	119	90	84	1,906	1,080
Nova Scotia.....	6	5	4	72	65	64	1,732	1,040
New Brunswick.....	7	4	3	66	42	31	1,086	588
Quebec.....	14	11	11	114	86	64	2,712	1,690
Ontario.....	36	17	18	343	194	197	5,409	2,794

¹ See footnote, previous page.

13.—Acreages, Production and Values of Principal Field Crops by Province 1953 and 1954 and Five Year Average 1945-59—concluded

Province	Area			Total Production			Gross Farm Value ¹	
	Average 1945-49 ²	1953	1954	Average 1945-49 ²	1953	1954	Average 1945-49 ²	1953
	'000 ac.	'000 ac.	'000 ac.	'000 tons	'000 tons	'000 tons	\$'000	\$'000
Tame Hay	10,535	10,702	10,802	16,729	19,650	19,549	250,847	269,489
Prince Edward Island.....	221	191	204	333	363	398	4,620	4,628
Nova Scotia.....	403	345	353	699	759	759	11,773	10,816
New Brunswick.....	554	430	428	748	688	792	11,849	9,632
Quebec.....	3,959	3,637	3,644	5,526	5,201	6,013	87,681	78,015
Ontario.....	3,371	3,500	3,440	6,128	7,350	6,742	86,292	95,550
Manitoba.....	324	450	486	556	945	1,035	6,021	9,450
Saskatchewan.....	481	540	600	681	972	1,080	9,029	12,879
Alberta.....	940	1,300	1,343	1,370	2,600	2,000	19,053	32,500
British Columbia.....	302	309	304	688	772	730	14,530	16,019
Fodder Corn	404	365	356	3,509	3,565	2,978	17,951	16,661
Quebec.....	71	73	76	605	708	520	4,172	4,956
Ontario.....	308	264	255	2,790	2,695	2,323	12,910	10,645
Manitoba.....	16	24	21	58	120	99	422	720
Saskatchewan.....	5	1	1	14	3	2	137	30
British Columbia.....	4	3	2	42	39	34	309	310
Sugar Beets	66	82	90	689	900	1,004	9,077	12,061
Quebec.....	3	7	6	27	70	68	344	914
Ontario.....	22	23	24	218	246	257	2,950	3,158
Manitoba.....	11	17	24	90	162	237	1,111	1,980
Alberta.....	30	35	37	354	422	443	4,672	6,009

¹ See footnote, p. 425.

14.—Acreages and Production of Grain in the Prairie Provinces 1952-54

NOTE.—Figures for years before 1952 will be found in the corresponding table of previous editions of the Year Book.

Grain	Acreages			Production		
	1952	1953	1954	1952	1953	1954
	'000 acres	'000 acres	'000 acres	'000 bu.	'000 bu.	'000 bu.
Wheat.....	25,372	24,648	23,437	678,000	584,000	282,000
Oats.....	7,560	6,490	6,715	346,000	276,000	196,000
Barley.....	8,145	8,599	7,568	281,000	251,000	167,000
Rye.....	1,193	1,411	753	23,200	26,850	12,179
Flaxseed.....	1,047	926	1,177	11,300	9,300	10,950

Stocks of Grain in Canada.—Table 15 shows the stocks of Canadian grain on hand in Canada and in the United States on July 31 for the years 1951-54, with averages for the five year periods 1935-39, 1940-44 and 1945-49. Stocks in Canada are separated into those in commercial positions and those on farms. Stocks on farms and in country elevators in the Prairie Provinces are given separately.

15.—Carryover of Canadian Grain as at July 31, 1951-54 and Five Year Averages 1935-49

NOTE.—Figures for individual years before 1951 will be found in the corresponding table of previous editions of the Year Book.

As at July 31—	Total in Canada and United States	Total in Canada	In Commercial Storage in Canada	On Farms in Canada	Prairie Provinces	
					On Farms	In Country Elevators
	bu.	bu.	bu.	bu.	bu.	bu.
Wheat—						
Av. 1935-39.....	101,142,053	92,273,005	86,848,305	5,424,700	4,328,000	18,075,723
Av. 1940-44.....	431,102,442	408,734,141	351,581,341	57,152,800	54,960,000	154,370,863
Av. 1945-49.....	119,587,196	115,603,876	82,718,676	32,885,200	31,265,600	24,698,778
1951.....	189,202,667	187,189,563	164,929,563	22,260,000	20,000,000	78,529,616
1952.....	217,177,826	214,934,143	195,672,143	19,262,000	18,000,000	98,782,136
1953.....	383,185,486	382,545,625	288,829,625	93,716,000	91,000,000	154,702,768
1954.....	601,675,202	601,567,923	386,707,923	214,860,000	211,000,000	211,475,266
Oats—						
Av. 1935-39.....	30,700,483	30,682,283	6,229,883	24,452,400	12,585,600	1,361,855
Av. 1940-44.....	74,984,299	74,212,213	16,435,613	57,776,600	43,826,600	6,500,924
Av. 1945-49.....	70,725,656	69,841,382	18,954,582	50,886,800	41,042,800	5,091,295
1951.....	95,177,487	94,526,622	35,045,622	59,481,000	43,000,000	14,922,787
1952.....	108,358,284	104,861,518	47,025,518	57,836,000	45,000,000	25,455,272
1953.....	144,409,075	143,525,521	52,865,521	90,660,000	78,500,000	38,504,134
1954.....	125,768,957	125,768,957	28,518,957	97,250,000	85,000,000	19,848,364
Barley—						
Av. 1935-39.....	8,096,869	7,827,168	4,182,808	3,644,360	2,500,800	711,449
Av. 1940-44.....	29,922,222	28,868,755	12,191,755	16,677,000	15,453,000	4,138,057
Av. 1945-49.....	29,747,854	29,512,098	12,702,098	16,810,000	16,140,000	3,842,261
1951.....	53,496,371	53,496,371	35,642,371	17,854,000	17,000,000	11,584,103
1952.....	79,503,741	79,286,664	57,810,664	21,476,000	21,000,000	26,916,163
1953.....	111,666,834	111,260,514	73,025,514	38,235,000	37,000,000	47,738,023
1954.....	145,910,370	145,910,370	49,100,370	96,810,000	95,000,000	31,750,779
Rye—						
Av. 1935-39.....	2,236,368	1,940,370	1,763,390	176,980	149,000	373,309
Av. 1940-44.....	6,897,205	4,942,647	3,260,247	1,682,400	1,617,800	1,172,857
Av. 1945-49.....	3,273,777	3,123,672	2,023,372	1,100,200	1,053,400	544,436
1951.....	3,298,681	2,624,988	1,774,988	850,000	800,000	226,523
1952.....	8,094,397	7,517,089	6,171,089	1,346,000	1,300,000	2,232,344
1953.....	16,190,618	15,288,159	12,133,159	3,155,000	3,050,000	3,417,425
1954.....	19,285,477	19,285,477	6,425,477	12,860,000	12,700,000	3,616,842
Flaxseed—						
Av. 1935-39.....	277,016	277,016	271,356	5,660	5,000	64,481
Av. 1940-44.....	1,923,885	1,923,885	1,667,525	256,360	251,700	373,895
Av. 1945-49.....	3,888,325	3,888,325	3,423,525	464,800	461,400	240,711
1951.....	1,203,778	1,203,778	997,778	206,000	205,000	113,467
1952.....	2,588,918	2,588,918	2,054,918	534,000	515,000	526,003
1953.....	3,939,420	3,939,420	2,468,420	1,471,000	1,450,000	972,940
1954.....	2,577,712	2,577,712	1,547,712	1,030,000	1,000,000	441,588

Subsection 4.—Livestock

The numbers of livestock on farms in the different provinces for 1953 and 1954 are given in Table 16 and the average value per head of farm livestock is given by province in Table 17.

16.—Livestock on Farms by Province at June 1, 1953 and 1954

Province and Item	1953	1954	Province and Item	1953	1954
	No.	No.		No.	No.
Newfoundland—1			Nova Scotia—		
Prince Edward Island—			Horses.....	23,400	21,700
Horses.....	19,000	17,600	Milk cows ²	88,000	90,000
Milk cows ²	44,000	46,500	Other cattle.....	114,000	114,000
Other cattle.....	70,000	73,500	Sheep.....	95,000	99,000
Sheep.....	38,700	39,400	Swine.....	39,000	39,000
Swine.....	57,000	70,000			

For footnotes, see end of table.

16.—Livestock on Farms by Province at June 1, 1953 and 1954—concluded

Province and Item	1953	1954	Province and Item	1953	1954
No.	No.	No.	No.	No.	No.
New Brunswick—			Saskatchewan—		
Horses.....	29,000	26,000	Horses.....	255,500	229,000
Milk cows ¹	95,000	96,500	Milk cows ²	285,000	276,000
Other cattle.....	98,400	98,500	Other cattle.....	1,150,000	1,111,000
Sheep.....	64,300	66,000	Sheep.....	170,000	156,000
Swine.....	56,000	67,000	Swine.....	469,000	539,000
Quebec—			Alberta—		
Horses.....	218,000	204,000	Horses.....	222,000	197,000
Milk cows ²	1,016,200	1,078,000	Milk cows ²	289,000	303,000
Other cattle.....	903,600	912,000	Other cattle.....	1,621,000	1,707,000
Sheep.....	360,800	363,000	Sheep.....	432,000	528,000
Swine.....	867,000	1,051,000	Swine.....	1,180,000	1,408,000
Ontario—			British Columbia—		
Horses.....	202,200	176,000	Horses.....	30,300	31,000
Milk cows ²	1,040,000	1,045,000	Milk cows ²	94,000	100,000
Other cattle.....	1,942,000	1,966,000	Other cattle.....	258,000	277,000
Sheep.....	414,500	410,000	Sheep.....	81,000	83,000
Swine.....	1,450,000	1,560,000	Swine.....	42,000	47,000
Manitoba—			Yukon Territory—¹		
Horses.....	96,800	91,000	Totals—		
Milk cows ²	195,000	198,000	Horses.....	1,096,200	993,300
Other cattle.....	459,000	462,000	Milk cows ²	3,146,200	3,233,000
Sheep.....	65,000	60,000	Other cattle.....	6,616,000	6,721,000
Swine.....	287,000	360,000	Sheep.....	1,721,300	1,804,400
			Swine.....	4,447,000	5,141,000

¹ Statistics for Newfoundland and Yukon Territory not available.
over, kept for milk purposes.

² Cows and heifers, two years or

17.—Average Value per Head of Farm Livestock by Province 1953 and 1954

Province and Item	1953	1954	Province and Item	1953	1954
\$	\$	\$	\$	\$	\$
Newfoundland—¹			Manitoba—		
Prince Edward Island—			Horses.....	55	54
Horses.....	89	80	All cattle.....	125	102
All cattle.....	103	85	Milk cows ²	176	136
Milk cows ²	151	133	Other cattle.....	104	87
Other cattle.....	73	60	Sheep.....	19	17
Sheep.....	18	17	Swine.....	32	33
Swine.....	31	39	Saskatchewan—		
Nova Scotia—			Horses.....	45	46
Horses.....	124	118	All cattle.....	122	102
All cattle.....	109	92	Milk cows ²	166	140
Milk cows ²	156	130	Other cattle.....	111	92
Other cattle.....	73	61	Sheep.....	18	15
Sheep.....	16	15	Swine.....	27	31
Swine.....	27	34	Alberta—		
New Brunswick—			Horses.....	51	50
Horses.....	120	108	All cattle.....	129	107
All cattle.....	108	86	Milk cows ²	190	156
Milk cows ²	156	125	Other cattle.....	118	98
Other cattle.....	62	48	Sheep.....	19	17
Sheep.....	18	15	Swine.....	31	36
Swine.....	30	34	British Columbia—		
Quebec—			Horses.....	81	74
Horses.....	141	139	All cattle.....	133	109
All cattle.....	112	93	Milk cows ²	188	160
Milk cows ²	153	128	Other cattle.....	112	91
Other cattle.....	65	53	Sheep.....	22	22
Sheep.....	17	16	Swine.....	33	38
Swine.....	31	35	Yukon Territory—¹		
Ontario—			Totals—		
Horses.....	91	89	Horses.....	80	79
All cattle.....	133	118	All cattle.....	125	106
Milk cows ²	179	162	Milk cows ²	169	144
Other cattle.....	109	95	Other cattle.....	104	87
Sheep.....	24	22	Sheep.....	20	18
Swine.....	32	41	Swine.....	31	36

¹ Statistics for Newfoundland and Yukon Territory not available.
or over, kept for milk purposes.

² Cows and heifers, two years or

The Federal Department of Agriculture inspects all livestock in plants designated as inspected establishments under the Meat and Canned Foods Act. A statistical record is kept of these inspections and details are given in Table 18. Local wholesale butchering and such slaughtering as are carried out by retail butchers and by farmers for their own use are not included. Actually the slaughtering and meat packing industry is concentrated into a comparatively small number of large establishments to facilitate greater efficiency and utilization of products; thus the figures of Table 18 are fairly inclusive. The slaughtering and meat packing industry is dealt with in its proper relation to all other manufacturing enterprises in Chapter XV of this volume. On a gross value basis it normally ranks among the three largest manufacturing industries in Canada but it owes its importance to the value of raw products obtained from the farmer and the rancher rather than to the value added by the manufacturing process.

18.—Livestock Slaughtered at Inspected Establishments 1939-53 and by Month 1954

(Exclusive of Newfoundland)

Year	Cattle	Calves	Sheep	Hogs	Year and Month	Cattle	Calves	Sheep	Hogs
	No.	No.	No.	No.	1954	No.	No.	No.	No.
1939.....	873,660	679,117	783,828	3,623,645	January.....	132,866	41,904	31,769	350,621
1940.....	890,919	703,918	765,165	5,457,083	February.....	116,705	41,886	26,930	357,429
1941.....	1,003,691	727,829	828,603	6,280,345	March.....	146,139	90,587	27,332	443,896
1942.....	970,415	666,672	825,368	6,196,850	April.....	116,504	100,005	18,751	363,591
1943.....	1,021,054	594,087	889,317	7,168,525	May.....	126,752	93,682	11,363	350,751
1944.....	1,354,121	661,245	959,169	8,766,417	June.....	148,194	88,670	15,354	394,108
1945.....	1,891,024	787,626	1,185,161	5,681,629	July.....	127,729	66,300	35,109	284,602
1946.....	1,668,441	752,343	1,213,235	4,252,591	August.....	124,199	54,308	53,103	281,138
1947.....	1,291,759	665,311	900,766	4,452,816	September.....	165,587	75,780	100,924	433,849
1948.....	1,489,883	787,410	768,943	4,487,649	October.....	135,751	57,359	97,429	398,846
1949.....	1,439,489	766,277	629,673	4,098,609	November.....	150,620	60,729	92,075	476,376
1950.....	1,284,683	773,205	521,089	4,405,055	December.....	143,962	49,296	52,416	544,007
1951.....	1,149,789	583,718	438,518	4,488,007	Totals.....	1,635,005	820,506	562,555	4,679,214
1952.....	1,237,630	567,760	512,966	6,234,145					
1953.....	1,469,406	740,723	543,371	4,611,312					

Wool.—Canada's wool requirements are largely met by imports which in 1954 amounted to 41,487,000 lb. (greasy basis) and 63,088,000 lb. in 1953. Exports amounted to 2,865,000 lb. in 1954 and 3,756,000 lb. in 1953. The apparent domestic consumption of wool shown in Table 19 is accounted for on the basis of production, exports and imports but does not take into consideration changes in stocks for which the data are not available. Differences in wool utilization between years are therefore probably less marked than indicated by these figures.

19.—Production and Apparent Consumption of Wool 1951-54

NOTE.—The 1951 figures shown are based on the Census Revisions of 1950 and previous figures are not on the same basis.

Item	1951	1952	1953	1954
Shorn Wool—				
Yield per fleece..... lb.	7.5	7.7	7.4	7.4
Total yield shorn..... '000 lb.	5,700	6,378	6,659	6,810
Price per pound..... cts.	74	36	88.5	87.6
Total value of shorn wool..... \$'000	4,231	2,265	2,565	2,561
Total pulled wool..... '000 lb.	1,182	1,313	1,962	1,670
Total wool production..... "	6,882	7,691	8,621	8,480
Apparent consumption..... "	73,238	53,589	67,953	47,102

Subsection 5.—Dairying

Milk Production.—Milk production in 1954 amounted to 16,883,621,000 lb., an increase of 434,942,000 lb. over the previous year. The proportion of the total milk production used for factory-made dairy products increased from 56·8 p.c. in 1953 to 57·4 p.c. in 1954. The proportion sold in fluid form was 30·2 p.c. in 1953 and 1954. Milk used for all purposes on farms (home consumed, manufactured and fed) declined from 13·0 p.c. of the total in 1953 to 12·4 p.c. in 1954.

20.—Production and Utilization of Milk by Province 1951-54 and Totals for 1950-54

Province and Year	Used in Manufacture		Milk Otherwise Used			Total Milk Production
	On Farms	In Factories	Fluid Sales	Farm-Home Consumed	Fed on Farms	
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Newfoundland.....	..	..	..	..	..	..
Prince Edward Island.....1951	11,926	130,546	27,079	21,263	6,608	197,422
1952	10,179	123,730	27,698	20,498	5,339	187,444
1953	9,992	144,164	27,666	20,935	5,519	208,276
1954	8,448	159,820	27,687	20,240	6,568	222,763
Nova Scotia.....1951	32,989	156,800	151,246	44,610	14,176	399,821
1952	29,508	152,771	158,922	47,160	18,029	406,390
1953	29,508	177,348	167,365	45,690	17,595	437,506
1954	24,266	179,107	174,669	49,030	14,204	441,276
New Brunswick.....1951	68,017	189,812	135,903	44,278	11,564	449,574
1952	51,316	187,692	138,687	43,970	11,331	432,996
1953	48,391	209,929	143,883	44,667	9,420	456,290
1954	42,471	229,304	148,039	45,880	9,459	475,153
Quebec.....1951	109,371	2,738,813	1,713,162	277,056	121,508	4,959,910
1952	118,474	2,965,640	1,824,626	278,024	118,268	5,305,032
1953	102,211	3,173,612	1,909,880	275,210	116,096	5,577,009
1954	90,394	3,411,494	1,918,934	276,200	116,840	5,813,862
Ontario.....1951	70,431	2,945,242	1,597,820	224,796	211,981	5,050,270
1952	47,104	3,070,685	1,591,182	223,728	204,599	5,137,298
1953	33,766	3,219,952	1,654,224	222,957	186,134	5,317,033
1954	31,777	3,275,386	1,721,583	223,900	175,200	5,427,846
Manitoba.....1951	64,128	570,325	200,879	90,137	50,976	976,445
1952	54,475	600,088	205,163	88,932	50,134	998,792
1953	50,334	629,786	212,687	91,960	55,345	1,040,112
1954	46,777	629,657	219,347	97,470	52,450	1,045,701
Saskatchewan.....1951	158,246	685,492	214,165	176,013	81,803	1,315,719
1952	146,882	682,186	220,802	169,734	92,275	1,311,879
1953	134,152	683,328	233,832	169,112	98,785	1,319,209
1954	126,266	657,732	247,985	169,700	95,520	1,297,203
Alberta.....1951	96,438	770,784	226,263	145,652	87,380	1,326,517
1952	80,894	747,952	240,628	138,123	89,566	1,297,163
1953	71,206	811,577	257,908	131,219	96,272	1,368,182
1954	68,866	815,156	271,206	132,400	102,970	1,390,598
British Columbia.....1951	17,080	209,894	351,993	32,185	23,141	634,293
1952	17,363	231,182	348,694	34,165	26,205	657,609
1953	15,795	291,506	359,710	33,501	24,550	725,062
1954	17,222	326,115	370,842	33,380	21,660	769,219
Totals.....1950	610,839	8,444,332	4,545,490	1,090,114	601,575	15,322,350
1951	628,626	8,397,708	4,618,510	1,055,990	609,137	15,309,971
1952	556,195	8,761,926	4,756,402	1,044,334	615,746	15,734,603
1953	495,355	9,341,202	4,967,155	1,035,251	609,716	16,448,679
1954	456,487	9,683,771	5,100,292	1,048,200	594,871	16,883,621

21.—Farm Values of Milk Production by Province 1951-54 and Totals for 1950-54

Province and Year	Value of Milk Used in Manufacture		Value of Milk Otherwise Used			Value of Total Milk Production
	On Farms	In Factories	Fluid Sales	Farm-Home Consumed	Fed on Farms	
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	..	..	..	..	..	..
Prince Edward Island.....	1951 316	3,054	980	572	582	5,504
1952 270	2,740	1,040	531	527	5,108	
1953 260	3,085	1,012	523	544	5,424	
1954 217	3,330	1,016	502	577	5,642	
Nova Scotia.....	1951 845	3,972	6,398	1,365	959	13,539
1952 744	3,720	7,007	1,391	1,031	13,893	
1953 744	4,183	7,491	1,343	1,104	14,865	
1954 591	4,088	7,725	1,402	978	14,784	
New Brunswick.....	1951 1,900	4,433	5,888	1,266	1,029	14,416
1952 1,938	4,094	6,233	1,205	965	13,835	
1953 1,261	4,564	6,442	1,219	979	14,465	
1954 1,071	4,853	6,616	1,225	1,011	14,776	
Quebec.....	1951 2,894	68,931	64,254	7,758	9,525	153,362
1952 3,088	68,774	73,829	7,423	9,993	163,107	
1953 2,621	71,685	76,662	7,266	10,544	168,778	
1954 2,279	77,049	76,676	7,292	11,001	174,297	
Ontario.....	1951 1,894	73,933	62,746	5,957	9,624	154,154
1952 1,228	69,150	68,236	5,638	9,326	153,578	
1953 866	69,481	70,496	5,529	9,202	155,574	
1954 828	69,820	72,567	5,441	8,774	157,430	
Manitoba.....	1951 1,642	12,671	7,062	2,298	3,369	27,042
1952 1,304	12,331	7,325	2,125	3,331	26,416	
1953 1,205	12,754	7,914	2,179	3,558	27,610	
1954 1,119	12,678	8,125	2,300	3,472	27,694	
Saskatchewan.....	1951 3,985	14,961	7,513	4,330	4,343	35,132
1952 3,578	13,899	8,073	3,904	4,410	33,864	
1953 3,268	14,220	9,018	3,991	4,578	35,075	
1954 3,022	13,472	9,719	3,937	4,371	34,521	
Alberta.....	1951 2,346	17,699	9,134	3,772	4,544	37,495
1952 1,936	16,342	10,175	3,315	4,216	35,984	
1953 1,704	17,483	11,077	3,149	4,497	37,910	
1954 1,648	17,321	11,603	3,178	4,879	38,629	
British Columbia.....	1951 437	6,504	16,041	898	746	24,626
1952 438	6,681	17,875	909	810	26,713	
1953 392	8,203	18,827	881	775	29,078	
1954 420	9,020	19,401	935	761	30,537	
Totals.....	1950 14,714	175,929	165,525	24,900	29,210	410,278
1951 16,159	206,158	180,016	28,216	34,721	465,270	
1952 13,924	197,731	199,793	26,441	34,609	472,498	
1953 12,321	205,658	208,939	26,080	35,781	488,779	
1954 11,195	211,631	213,448	26,212	35,824	498,310	

Butter, Cheese and Other Dairy Production.—Butter production in 1954 amounted to 334,343,000 lb., 8,653,000 lb. more than in 1953. Of the 1954 total 312,854,000 lb. was creamery butter, 19,508,000 lb. dairy or farm-made butter and 1,981,000 lb. whey butter. Creamery output was the highest on record, surpassing the previous high of 311,709,000 lb. set in 1943.

Factory cheese production in 1954 was estimated at 91,665,000 lb., an increase of 10.1 p.c. over the 1953 estimate but 55.8 p.c. below the peak production of 207,431,000 lb. in 1942. Exports of cheese, mostly cheddar, amounted to 5,000,000 lb. in 1954 and 16,429,000 lb. in 1953 as compared with 135,409,000 lb. in 1945.

The over-all production of concentrated milk products increased in 1954 over that of 1953 but the production of ice cream decreased by about 165,000 gal. between the two years.

22.—Production of Butter and Cheese by Province 1951-54 and Totals for 1950-54

Province and Year	Butter				Cheese
	Creamery	Dairy	Whey	Total	Factory ¹
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Newfoundland.....	..	..	..	..	..
Prince Edward Island.....1951	5,012	509	—	5,521	878
.....1952	4,886	435	—	5,321	542
.....1953	5,731	427	—	6,158	560
.....1954	6,096	361	17	6,474	908
Nova Scotia.....1951	5,080	1,408	—	6,488	—
.....1952	4,953	1,261	—	6,214	—
.....1953	6,079	1,261	—	7,340	—
.....1954	6,152	1,037	—	7,189	—
New Brunswick.....1951	6,767	2,903	—	9,670	1,331
.....1952	6,969	2,193	—	9,162	858
.....1953	7,988	2,068	—	10,056	776
.....1954	8,787	1,815	—	10,602	805
Quebec.....1951	91,363	4,668	173	96,204	18,921
.....1952	102,346	5,063	118	107,527	13,867
.....1953	112,179	4,368	103	116,650	13,597
.....1954	119,801	3,863	166	123,830	18,276
Ontario.....1951	67,137	3,006	1,791	71,934	68,657
.....1952	78,915	2,013	1,542	82,470	54,378
.....1953	82,657	1,443	1,609	85,709	63,374
.....1954	82,811	1,358	1,775	85,944	66,833
Manitoba.....1951	22,277	2,737	28	25,042	1,510
.....1952	23,549	2,328	27	25,904	1,479
.....1953	24,992	2,151	21	27,164	1,270
.....1954	25,012	1,999	18	27,029	1,227
Saskatchewan.....1951	27,903	6,754	—	34,657	376
.....1952	27,811	6,277	—	34,088	53
.....1953	27,782	5,733	—	33,515	192
.....1954	26,760	5,396	—	32,156	148
Alberta.....1951	28,960	4,116	24	33,100	2,080
.....1952	27,647	3,457	24	31,128	2,022
.....1953	30,009	3,043	5	33,057	2,790
.....1954	30,368	2,943	5	33,316	2,580
British Columbia.....1951	2,666	729	7	3,402	557
.....1952	3,670	742	2	4,414	466
.....1953	5,366	675	—	6,041	659
.....1954	7,067	736	—	7,803	787
Totals.....1950	261,464	27,352	2,202	291,018	102,710
.....1951	257,165	26,830	2,023	286,018	94,314
.....1952	280,746	23,769	1,713	306,228	73,668
.....1953	302,783	21,169	1,738	325,690	83,219
.....1954	312,854	19,508	1,981	334,343	91,665

¹ Factory made cheese includes cheddar and other cheese made from whole milk and cream. Amounts for "other cheese" are included in Quebec and Ontario figures but as less than three firms reported in the other provinces data cannot be included, except in the Canada total.

23.—Production of Concentrated Milk Products 1951-54

(Exclusive of Newfoundland)

Product	1951	1952	1953	1954
	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Concentrated Whole Milk Products.....	340,547	350,195	323,320	331,021
Evaporated milk.....	290,443	305,715	272,009	280,350
Condensed milk.....	19,541	16,539	18,462	13,648
Whole-milk powder.....	17,404	16,035	18,744	18,819
Miscellaneous whole milk products.....	13,159	11,906	14,105	18,204

23.—Production of Concentrated Milk Products 1951-54—concluded

Product	1951	1952	1953	1954
	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Concentrated Milk Byproducts¹	95,215	122,856	116,466	119,168
Condensed skim milk.....	6,282	4,741	4,037	3,928
Evaporated skim milk.....	10,323	10,428	10,789	10,567
Skim milk powder.....	52,748	88,229	82,914	83,332
Condensed buttermilk.....	4,107	2,668	1,487	1,846
Buttermilk powder.....	5,428	6,606	6,565	6,653
Casein.....	6,678	2,898	4,885	6,165
Totals	435,762	473,051	439,786	450,189

¹ Includes lactose and whey powder.

24.—Production of Ice Cream by Province 1951-54

Province	1951	1952	1953	1954	Province	1951	1952	1953	1954
	'000 gal.	'000 gal.	'000 gal.	'000 gal.		'000 gal.	'000 gal.	'000 gal.	'000 gal.
Newfoundland.....	..	..	..	..	Manitoba.....	1,719	1,832	1,782	1,706
P. E. Island.....	185	196	175	166	Saskatchewan.....	1,519	1,748	1,818	1,748
Nova Scotia.....	1,578	1,478	1,411	1,388	Alberta.....	2,109	2,293	2,453	2,484
New Brunswick.....	913	867	850	871	British Columbia.....	2,892	2,964	3,058	3,057
Quebec.....	5,227	5,702	6,564	6,414	Totals	25,366	27,262	28,809	28,642
Ontario.....	9,224	10,182	10,698	10,808					

Domestic Disappearance of Dairy Products.—The estimated consumption of fluid milk and cream, on a milk basis, amounted to 4,647,661,000 pt. in 1954, 110,000,000 pt. higher than the 1953 consumption. The average daily consumption per capita was 0.86 pt.

25.—Estimated Consumption of Milk and Cream (expressed as Milk) by Province 1951-54 and Totals for 1950-54

Province and Year	Estimated Consumption	Daily per Capita Consumption	Province and Year	Estimated Consumption	Daily per Capita Consumption
	'000 pt.	pt.		'000 pt.	pt.
Newfoundland.....	..	..	Manitoba.....1951	220,923	0.78
Prince Edward Island....1951	36,845	1.03	1952	223,210	0.76
1952	36,717	0.97	1953	231,214	0.78
1953	37,032	0.96	1954	240,494	0.80
1954	36,509	0.95	Saskatchewan.....1951	297,483	0.98
Nova Scotia.....1951	148,309	0.63	1952	297,606	0.96
1952	156,058	0.65	1953	306,921	0.98
1953	161,267	0.67	1954	318,019	0.99
1954	169,349	0.69	Alberta.....1951	283,045	0.83
New Brunswick.....1951	136,515	0.72	1952	288,009	0.81
1952	138,369	0.72	1953	295,651	0.81
1953	142,816	0.73	1954	306,566	0.81
1954	146,882	0.74	British Columbia.....1951	289,626	0.68
Quebec.....1951	1,502,963	1.02	1952	288,680	0.66
1952	1,587,528	1.04	1953	296,450	0.66
1953	1,649,453	1.06	1954	304,726	0.66
1954	1,657,027	1.03	Totals.....1950	4,262,976	0.87
Ontario.....1951	1,375,721	0.82	1951	4,291,439	0.86
1952	1,369,903	0.79	1952	4,386,080	0.85
1953	1,416,708	0.79	1953	4,537,512	0.86
1954	1,468,089	0.80	1954	4,647,661	0.86

Domestic disappearance of butter (creamery, dairy and whey) was approximately 314,384,000 lb. in 1954 compared with 308,689,000 lb. in 1953.

The domestic disappearance of cheese (including cheddar, process and other) was about 95,134,000 lb. in 1954, an average of 6.26 lb. per capita. In the previous year the per capita average was 6.21 lb.

The domestic disappearance of concentrated whole milk products declined from 20.77 lb. per capita in 1953 to 20.53 lb. in 1954.

Disappearance of all dairy products represented the equivalent of approximately 1,027 lb. of milk per capita in 1954 compared with 1,034 lb. in 1953.

26.—Domestic Disappearance of Dairy Products 1951-54

Product	1951		1952		1953		1954	
	Disappearance		Disappearance		Disappearance		Disappearance	
	Total	Per Capita ¹	Total	Per Capita ¹	Total	Per Capita ¹	Total	Per Capita ¹
	'000 lb.	lb.	'000 lb.	lb.	'000 lb.	lb.	'000 lb.	lb.
Totals, Milk and Cream.....	5,535,945	405.62	5,658,044	402.54	5,853,391	406.54	5,995,483	405.18
Milk.....	4,682,467	343.09	4,776,899	339.85	4,927,682	342.25	5,058,969	341.89
Cream as product.....	181,801	13.32	186,461	13.27	196,476	13.65	198,045	13.38
Cream as milk.....	853,478	62.53	881,145	62.69	925,709	64.29	936,514	63.29
Totals, Butter.....	297,307	21.22	300,406	20.82	308,689	20.88	314,384	20.69
Creamery.....	268,542	19.17	274,911	19.05	285,723	19.33	292,936	19.28
Dairy.....	26,830	1.91	23,770	1.65	21,169	1.43	19,508	1.28
Whey.....	1,935	0.14	1,725	0.12	1,797	0.12	1,940	0.13
Totals, Cheese.....	79,896	5.70	84,129	5.83	91,669	6.21	95,134	6.26
Cheddar.....	29,713	2.12	31,624	2.19	35,478	2.40	37,798	2.49
Process.....	39,551	2.82	41,178	2.85	44,291	3.00	44,423	2.92
Other.....	10,632	0.76	11,327	0.79	11,900	0.81	12,913	0.85
Totals, Concentrated Whole Milk Products².....	279,032	19.92	293,042	20.30	306,996	20.77	311,896	20.53
Evaporated.....	250,169	17.86	265,079	18.37	274,919	18.60	276,130	18.17
Condensed.....	10,712	0.76	11,017	0.76	12,835	0.87	12,348	0.81
Powdered.....	4,994	0.36	5,041	0.35	5,138	0.35	5,210	0.34
Totals, Concentrated Milk By-products^{3,4}.....	91,534	6.53	84,670	5.87	94,554	6.40	107,376	7.07
Evaporated.....	9,057	0.65	10,348	0.72	10,891	0.74	12,739	0.84
Condensed.....	6,087	0.43	4,836	0.33	4,108	0.28	4,023	0.26
Powdered.....	52,052	3.72	50,727	3.52	65,472	4.43	71,768	4.72
All Dairy Products in Terms of Milk—								
Butter.....	6,920,566	494.01	6,989,135	484.35	7,181,273	485.84	7,311,189	481.16
Cheese.....	774,352	55.28	824,403	57.13	879,453	59.50	915,579	60.26
Concentrated.....	649,125	46.34	702,987	48.72	733,424	49.62	742,226	48.85
Grand Totals⁵.....	14,336,234	1,033.82	14,650,901	1,025.75	15,135,220	1,034.49	15,450,184	1,027.41

¹ Includes Newfoundland for all manufactured dairy products.

² Includes malted milk, cream powder and substandard products of a variable fat content, items that do not appear separately in this table.

³ Includes milk byproducts items not separately listed, i.e., condensed buttermilk, powdered buttermilk, sugar of milk, casein and powdered whey.

⁴ Since the quantities used for human consumption and livestock feeding cannot definitely be established, per capita figures include both.

⁵ Includes ice cream in terms of milk.

Subsection 6.—Poultry and Eggs

Statistics of production and consumption of poultry meat and eggs are given in Tables 27 to 29.

27.—Numbers and Values of Poultry on Farms by Province as at June 1, 1952-54 and Totals for 1950-54

Province and Year	Hens and Chickens		Turkeys		Geese		Ducks		Totals	
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
	'000	\$'000	'000	\$'000	'000	\$'000	'000	\$'000	'000	\$'000
Newfoundland ¹.....1951	74	202	2	12	--	3	--	2	76	219
P. E. Island.....1952	925	1,107	18	56	21	51	15	18	979	1,232
.....1953	870	959	17	63	20	42	15	21	922	1,085
.....1954	970	1,099	15	42	20	47	15	20	1,020	1,208
Nova Scotia.....1952	1,480	2,200	28	88	4	12	3	4	1,515	2,304
.....1953	1,530	2,358	25	88	4	12	3	5	1,562	2,463
.....1954	1,670	2,447	30	92	4	10	3	4	1,707	2,553
New Brunswick.....1952	1,145	1,602	44	166	5	18	5	8	1,199	1,794
.....1953	1,090	1,500	50	150	6	15	5	7	1,151	1,672
.....1954	1,330	1,794	55	167	6	16	5	7	1,396	1,984
Quebec.....1952	9,875	13,657	440	1,471	13	33	49	66	10,377	15,227
.....1953	9,800	13,164	375	1,078	14	36	53	92	10,242	14,370
.....1954	10,859	13,767	460	1,312	15	43	56	90	11,390	15,212
Ontario.....1952	20,700	25,817	692	2,229	137	349	166	231	21,695	28,626
.....1953	23,400	32,092	568	1,490	147	359	168	224	24,283	34,165
.....1954	24,000	25,375	655	1,785	135	278	150	173	24,940	27,611
Manitoba.....1952	6,667	5,501	418	874	62	120	65	63	7,212	6,558
.....1953	6,190	5,410	355	941	59	120	63	67	6,667	6,538
.....1954	7,300	5,864	500	1,048	60	127	65	64	7,925	7,103
Saskatchewan.....1952	8,680	7,083	587	1,390	43	88	74	82	9,384	8,643
.....1953	7,900	6,319	470	1,057	45	97	63	81	8,478	7,554
.....1954	8,000	6,229	600	1,237	42	104	62	76	8,704	7,646
Alberta.....1952	8,420	7,886	640	1,776	80	186	95	133	9,235	9,981
.....1953	8,280	7,323	530	1,215	78	177	91	104	8,979	8,819
.....1954	9,350	8,035	650	1,561	70	154	110	126	10,180	9,876
British Columbia.....1952	3,840	5,584	300	875	21	66	25	42	4,186	6,567
.....1953	3,900	5,213	225	802	15	40	27	43	4,167	6,098
.....1954	4,130	5,539	265	846	14	41	24	34	4,433	6,460
Totals.....1950	61,469	67,767	2,559	8,385	369	964	489	689	64,886	77,805
.....1951	64,615	77,942	2,529	7,607	353	997	437	616	67,934	87,162
.....1952	61,732	70,437	3,167	8,925	386	923	497	647	65,782	80,932
.....1953	62,960	74,338	2,615	6,884	388	898	488	644	66,451	82,764
.....1954	67,609	70,149	3,230	8,090	366	820	490	594	71,695	79,653

¹ Census data; annual estimates are not available.

28.—Production, Utilization and Value of Farm Eggs by Province 1954

Province	Average Number of Layers ¹	Average Production per 100 Layers	Net Eggs Laid ²	Sold ³	Used on Farms ³	Value per Dozen ⁴	Total Value Sold and Used
	'000	No.	'000 doz.	'000 doz.	'000 doz.	cts.	\$'000
Newfoundland.....	505	17,948	7,430	6,495	935	32.0	2,381
Prince Edward Island.....	904	20,146	14,947	13,388	1,559	42.9	6,411
Nova Scotia.....	660	17,809	9,442	7,682	1,760	45.1	4,254
New Brunswick.....	4,310	17,502	62,071	49,916	12,155	41.3	25,605
Quebec.....	10,448	17,896	153,619	140,013	13,606	38.4	59,027
Ontario.....	2,463	15,906	32,066	28,320	3,746	32.5	10,426
Manitoba.....	2,719	14,515	32,193	25,188	7,005	30.9	9,933
Saskatchewan.....	3,251	15,805	41,886	33,695	8,191	33.7	14,100
Alberta.....	1,896	17,855	27,694	25,611	2,083	41.8	11,568
Totals.....	27,156	17,264	381,348	330,308	51,040	37.7	143,705

¹ Hens and pullets over six months old.

² Total laid less loss.

³ Includes eggs used for hatching.

⁴ Average value at farms for all purposes.

29.—Production and Domestic Disappearance of Eggs and Poultry 1951

Item	Farm Production	Produced Elsewhere	Total Production	Total Supply	Domestic Dis- appearance	Per Capita Con- sumption
	'000 doz.	'000 doz.	'000 doz.	'000 doz.	'000 doz.	doz.
Eggs	381,348	11,058	392,406	399,843	381,949¹	24.4
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.	lb.
Poultry	406,691	14,765	421,456	462,355	435,082	28.6
Fowl and chickens.....	320,265	12,333	332,598	359,290	342,623	22.5
Turkeys.....	79,108	2,259	81,367	94,532	84,387	5.6
Geese.....	3,393	78	3,471	3,659	3,514	0.2
Ducks.....	3,925	95	4,020	4,874	4,558	0.3

¹ Includes hatching eggs.

Subsection 7.—Fruit

Commercial fruit growing in Canada is confined almost exclusively to rather limited areas in the Provinces of Nova Scotia, New Brunswick, Quebec, Ontario and British Columbia. In Nova Scotia production is centred mainly in the Annapolis Valley and in New Brunswick in the St. John River Valley and Westmorland County. The fruit growing districts of Quebec are the Montreal area, the North Shore area, the Eastern Townships and the Quebec City district. In Ontario fruit is grown in all the counties adjacent to the St. Lawrence River and the Great Lakes as far west as Georgian Bay, the Niagara district being the most productive. In British Columbia the four well defined fruit areas are the Okanagan Valley, the Fraser Valley, the Kootenay and Arrow Lakes district and Vancouver Island. The climate elsewhere in Canada is not generally suitable for commercial tree-fruit culture.

Strawberries are grown commercially in all provinces for which tree fruit statistics are prepared as well as in Prince Edward Island. However this crop is produced over a somewhat wider area than are tree fruits. In Nova Scotia for example a considerable volume of strawberries is grown in Colchester County and farther north as well as in the apple producing areas of the Annapolis Valley. In British Columbia most of the strawberries are grown in the Fraser Valley rather than in the predominantly tree-fruit producing area of the Okanagan Valley.

Raspberries are grown commercially in Nova Scotia, New Brunswick, and Quebec but the bulk of the crop is produced in Ontario and British Columbia with the Fraser Valley of British Columbia being the most important single area in Canada.

Wild blueberries are harvested on a commercial scale in Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick, and Quebec. This crop is indigenous to certain lands in these areas. Individuals who harvest the wild berries may undertake to burn the land from time to time for weed control and to effect pruning. Dusting may also be carried out to control insects and bees are sometimes introduced to secure better pollination. A large percentage of the crop is frozen and exported. Some blueberries are picked for sale in other provinces but no statistics are available. There is also some production of cultivated blueberries, particularly in British Columbia.

A marketing system has been developed for distributing fresh fruit from the specialized production areas to all parts of the country and a large proportion of the deciduous fruit consumed in Canada is grown domestically. Considerable quantities of apples, strawberries and blueberries are exported annually, with the United States as the most important export market for Canadian fruit. Import restrictions by the United Kingdom have greatly reduced exports of Canadian fruit to that market in recent years.

In most producing areas, particularly in the Annapolis Valley of Nova Scotia, the Niagara Peninsula of Ontario and the Okanagan Valley of British Columbia, fruit growing is either the principal or at least one of the most important forms of agriculture and its prosperity is of paramount importance to the economy of those areas. Apples and small fruits are produced commercially in the provinces named but tender tree fruits and commercial vineyards are very largely limited to Ontario and British Columbia.

Canning and processing industries have developed in the fruit growing districts and, although the importance of the processing market varies with different fruits, it provides a valuable outlet for substantial proportions of most Canadian grown fruit crops. Some canned fruits are exported.

30.—Estimated Commercial Production and Farm Value of Fruit 1951-54

Kind of Fruit and Year	Quantity	Weight	Farm Value	Average Farm Price per Unit of Quantity ¹	Kind of Fruit and Year	Quantity	Weight	Farm Value	Average Farm Price per Unit of Quantity ¹
	'000 bu.	'000 lb.	\$'000	\$		'000 qt.	'000 lb.	\$'000	\$
Apples—					Strawberries—				
1951.....	13,610	612,450	13,893	1.02	1951.....	26,204	32,755	5,662	0.22
1952.....	12,049	542,205	17,391	1.44	1952.....	32,368	40,460	6,077	0.19
1953.....	11,731	527,895	17,578	1.50	1953.....	28,036	38,084 ²	6,405	0.23
1954.....	15,109	679,905	17,963	1.19	1954.....	27,170	36,064 ²	6,904	0.25
Pears—					Raspberries—				
1951.....	1,225	61,250	2,238	1.83	1951.....	11,772	14,715	3,133	0.27
1952.....	1,303	65,150	2,371	1.82	1952.....	10,829	13,536	2,565	0.24
1953.....	1,435	71,750	2,653	1.85	1953.....	13,359	19,149 ²	3,661	0.27
1954.....	1,270	63,500	2,716	2.14	1954.....	12,621	18,045 ²	3,236	0.26
Plums and Prunes—									
1951.....	692	34,600	865	1.25					
1952.....	896	44,800	1,033	1.15					
1953.....	749	37,450	1,252	1.67					
1954.....	728	36,400	1,539	2.11					
Peaches—					Loganberries—				
1951.....	1,792	89,600	4,004	2.23	1951.....	883	883	147	0.17
1952.....	2,917	145,850	5,152	1.77	1952.....	1,240	1,240	158	0.13
1953.....	2,893	144,650	5,543	1.92	1953.....	1,687	1,687	197	0.12
1954.....	2,421	121,050	5,252	2.17	1954.....	1,606	1,606	207	0.13
Apricots—					Grapes—				
1951.....	38	1,900	116	3.05	1951.....	88,602	88,602	2,813	0.03
1952.....	243	12,150	342	1.41	1952.....	86,481	86,481	3,052	0.04
1953.....	165	8,250	425	2.58	1953.....	80,533	80,533	3,496	0.04
1954.....	158	7,900	319	2.02	1954.....	88,472	88,472	3,896	0.04
Cherries—					Blueberries—				
1951.....	419	20,950	2,263	5.40	1951.....	25,582	25,582	2,979	0.12
1952.....	505	25,250	2,113	4.18	1952.....	25,598	25,598	3,377	0.13
1953.....	449	22,450	2,658	5.92	1953.....	18,973	18,973	3,339	0.18
1954.....	512	25,600	3,233	6.31	1954.....	31,754	31,754	3,409	0.11

¹ Price to growers (to pickers in the case of blueberries) for unpacked fruit.

² Commencing 1953 strawberry and raspberry estimates converted from quarts to pounds at 1.5 lb. per qt. in British Columbia; previous conversion rate was 1.25 lb. per qt.—the figure used for all other provinces.

31.—Quantity and Value of Commercial Fruit Produced by Province 1951-54

Province	Quantity				Value ¹			
	1951	1952	1953	1954	1951	1952	1953	1954
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	1,870	2,165	2,646	1,949	224	260	304	125
Prince Edward Island.....	900	1,589	1,485	1,417	99	168	178	197
Nova Scotia.....	73,877	80,153	53,080	106,131	1,769	2,230	1,915	3,032
New Brunswick.....	20,831	18,980	13,902	16,231	1,032	1,184	740	1,015
Quebec.....	166,690	88,585	96,951	143,265	7,099	6,839	7,240	8,114
Ontario.....	393,048	408,152	409,505	424,949	14,762	17,733	20,510	21,132
British Columbia.....	326,071	403,098	393,304	416,354	13,128	15,217	16,320	15,058
Totals.....	983,287	1,002,722	970,873	1,110,296	38,113	43,631	47,207	48,673

¹ Farm value (to pickers in the case of blueberries) for unpacked fruit.

Subsection 8.—Special Crops

Tobacco.—The chief tobacco growing area of Canada is located in southern Ontario in the counties adjacent to Lake Erie. Most of the cigarette tobacco comes from this district. In Ontario in 1954, 116,990 acres of flue-cured or Bright Virginia type tobacco and 3,122 acres of Burley tobacco were harvested. These are the most important types grown in Canada though dark air-cured and fire-cured tobacco as well as cigar tobacco are grown on a more limited scale. The only other important production comes from Quebec. In 1954, 5,737 acres of flue-cured tobacco, 3,781 acres of cigar tobacco and 1,345 acres of pipe tobacco were harvested in that Province.

A study of Department of National Revenue reports on tax-paid withdrawals of tobacco products reveals changes in the smoking habits of Canadians during the past three decades. In 1922, the first year for which comparable figures are available, Canadian per capita consumption of cigarettes was 229, cigars 20, cut tobacco 1.3 lb., plug tobacco 1.1 lb. and snuff about 1.3 oz. By 1954 the annual per capita consumption of cigarettes had increased to 1,455, cigars had dropped to 16.1, cut tobacco went up to 1.6 lb. but plug declined considerably.

32.—Acreages, Production and Values of the Commercial Crop of Leaf Tobacco 1950-54 and Average for 1945-49

Year	Harvested Area	Average Yield per Acre	Total Production	Average Farm Price per lb.	Gross Farm Value
	acres	lb.	lb.	cts.	\$
Av. 1945-49.....	109,709	1,106	121,373,000	36.8	44,655,000
1950.....	101,809	1,182	120,298,000	42.6	51,292,000
1951.....	118,970	1,293	153,792,000	43.1	66,213,000
1952.....	91,639	1,525	139,719,000	40.6	56,797,000
1953.....	101,088	1,377	139,190,000	42.8	59,617,000
1954.....	131,755	1,402	184,763,000	42.1	77,788,000

33.—Acreages, Production and Values of the Commercial Crop of Leaf Tobacco by Province 1950-54 and Average for 1945-49

Year	Quebec			Ontario			British Columbia		
	Har-vested Area	Pro-duction	Value	Har-vested Area	Pro-duction	Value	Har-vested Area	Pro-duction	Value
	acres	'000 lb.	\$	acres	'000 lb.	\$	acres	'000 lb.	\$
Av. 1945-49.	11,293	10,359	2,898,000	98,315	110,904	41,730,800	101	111	34,800
1950.....	9,163	9,556	2,732,000	92,556	110,610	48,505,000	120	132	55,000
1951.....	9,080	8,631	2,600,000	109,740	144,975	63,544,000	150	186	69,000
1952.....	7,997	8,358	2,688,000	83,548	131,236	54,065,000	94	125	44,000
1953.....	9,020	9,865	3,261,000	91,996	129,253	56,328,000	72	72	28,000
1954.....	10,863	11,110	3,579,000	120,804	173,569	74,174,000	88	84	35,000

34.—Acreages, Production and Values of the Commercial Crop of Leaf Tobacco by Main Type 1950-54 and Average for 1945-49

Type of Tobacco and Year	Harvested Area	Average Yield per Acre	Total Production	Average Farm Price per lb.	Gross Farm Value
	acres	lb.	lb.	cts.	\$
Flue-cured.....Av. 1945-49	90,787	1,102	100,070,000	38.9	38,944,000
1950	92,080	1,175	108,202,000	44.5	48,144,000
1951	111,300	1,294	144,055,000	44.2	63,729,000
1952	86,047	1,534	131,965,000	41.6	54,867,000
1953	95,792	1,382	132,352,000	43.7	57,837,000
1954	122,815	1,410	173,159,000	43.1	74,777,000
Burley.....Av. 1945-49	11,042	1,147	1,266,400	28.6	3,628,000
1950	4,652	1,217	5,660,000	30.0	1,700,000
1951	2,480	1,457	3,609,000	30.1	1,088,000
1952	1,406	1,673	2,352,000	29.6	695,000
1953	1,096	1,560	1,709,000	31.3	535,000
1954	3,122	1,431	4,470,000	30.2	1,353,000
Cigar leaf.....Av. 1945-49	4,310	1,140	4,914,000	22.8	1,119,000
1950	3,212	1,300	4,175,000	22.0	919,000
1951	3,000	1,243	3,728,000	22.9	853,000
1952	2,150	1,227	2,639,000	22.9	603,000
1953	3,000	1,277	3,830,000	24.2	926,000
1954	3,781	1,280	4,840,000	23.2	1,125,000

Sugar Beets and Beetroot Sugar.—Sugar beets are grown commercially in Quebec, Ontario, Manitoba and Alberta and seven beet sugar factories are located in these provinces. In Quebec, commercial production, which centres in the St. Hilaire area of the Eastern Townships, started in 1944; in 1954 about 68,000 tons were harvested from 6,500 acres. The sugar beet industry of Ontario is largely confined to the southwestern section of the province and factories are located at Wallaceburg and Chatham. In 1954 Ontario factories processed about 257,000 tons harvested from over 23,000 acres.

Processing of sugar beets in Manitoba began in 1940 when 95,000 tons were handled. In 1954 the factory processed 237,000 tons from 24,000 harvested acres. In Alberta, where the industry has shown steady growth, sugar beets are produced under irrigation with yields averaging above those received in the other provinces. In 1954, the three Alberta factories, located in the south of the province at Raymond, Picture Butte and Taber, handled 443,000 tons of beets from a harvested area of about 37,000 acres.

35.—Acreages, Yields and Values of Sugar Beets and Quantities and Values of Refined Beetroot Sugar Produced 1950-54 and Average for 1945-49

Year	Sugar Beets					Refined Beetroot Sugar Produced		
	Harvested Area	Yield per Acre	Total Yield	Average Price per Ton	Total Value	Quantity	Value	Price per lb.
	acres	tons	tons	\$	\$	lb.	\$	cts.
Av. 1945-49.....	66,000	10.48	690,000	12.74	8,788,000	185,275,106	14,865,278	8.02
1950.....	102,000	11.10	1,128,000	16.28	18,367,000	300,185,390	30,845,292	10.28
1951.....	93,000	10.37	965,000	14.96	14,443,000	247,753,449	26,445,879	10.67
1952.....	93,000	11.05	1,023,000	15.15	15,493,000	298,245,300	29,041,841	9.73
1953.....	82,000	10.99	900,000	13.40	12,061,000	245,476,088	21,943,670	8.94
1954.....	90,000	11.10	1,004,000	12.32 ^p	12,365,000 ^p	220,664,336	19,107,800	8.66

Apiculture.—Honey is produced commercially in all provinces of Canada except Newfoundland, Ontario being the largest producer. There is a considerable movement of honey from the Prairie Provinces to other parts of Canada. In recent years exports have been small, the United States being the most important external market.

Honey statistics have been compiled on an all-Canada basis since 1924 and show that the largest recorded crop was in 1948 when 45,145,000 lb. were produced. The smallest crop since 1924 was that of 1954 which amounted to 19,885,000 lb. The reduced production of recent years was owing to reduction in the number of bee colonies but that of 1954 was attributed to low average yields per colony resulting from unfavourable weather conditions in most provinces.

In order to facilitate storage, shipment and uniformity of quality, considerable quantities of Canadian honey are pasteurized. Beekeepers' marketing co-operatives are active in several provinces.

Bees are kept in some of the fruit growing and greenhouse districts of the country chiefly for purposes of pollination.

36.—Beekeepers and Bee Colonies, Production and Value of Honey and Beeswax 1950-54 and Average for 1945-49

Year	Bee-keepers	Bee Colonies	Honey				Beeswax		Value of Honey and Wax
			Average Production per Hive	Total Production	Average Price per lb. to Producers	Total Value	Production	Value	
	No.	No.	lb.	lb.	cts.	\$	lb.	\$	\$
Av. 1945-49.	36,740	539,200	63	33,982,000	19	6,457,000	474,000	213,000	6,670,000
1950.....	22,180	430,000	66	28,351,000	15	4,282,000	425,000	166,000	4,448,000
1951.....	18,900	406,300	101	40,909,000	16	6,445,000	590,000	294,000	6,739,000
1952.....	15,950	385,600	81	31,230,000	15	4,680,000	463,000	217,000	4,897,000
1953.....	13,950	341,300	77	26,384,000	16	4,099,000	390,000	174,000	4,273,000
1954.....	14,940	339,700	59	19,885,000	17	3,424,000	282,000	124,000	3,548,000

37.—Honey Production by Province 1951-54 and Average for 1945-49

Province	Av. 1945-49	1951	1952	1953	1954
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Newfoundland.....	...	...	...	...	...
Prince Edward Island.....	49	71	91	68	69
Nova Scotia.....	98	143	125	137	125
New Brunswick.....	139	151	156	124	92
Quebec.....	4,065	5,044	4,398	2,972	3,874
Ontario.....	10,378	20,500	14,900	10,000	6,012
Manitoba.....	5,392	5,400	3,360	4,830	4,198
Saskatchewan.....	6,001	3,600	2,500	3,247	1,825
Alberta.....	6,957	4,500	4,900	3,856	2,636
British Columbia.....	903	1,500	800	1,150	1,054
Totals.....	33,982	40,909	31,230	26,584	19,885

Maple Sugar and Syrup.—Maple syrup is produced in the Provinces of Nova Scotia, New Brunswick, Quebec and Ontario. The bulk of the crop comes from the Eastern Townships of Quebec, a district famous both in Canada and the United States as the centre of the maple products industry. Virtually all of the maple products exported are sent to the United States with the larger proportion moving as sugar, although substantial quantities of syrup are also shipped.

Much of the syrup sold in Canada is marketed in one gallon cans direct to the consumer from the producer but a considerable amount of both sugar and syrup is sold each year to processing firms.

38.—Estimated Production of Maple Sugar and Maple Syrup by Province 1950-54 and Average for 1945-49

Province and Year	Maple Sugar			Maple Syrup			Total Value, Sugar and Syrup
	Quantity	Average Price per lb.	Value	Quantity	Average Price per gal.	Value	
	lb.	cts.	\$	gal.	\$	\$	\$
Nova Scotia—							
Av. 1945-49 ¹	16,000	44-0	7,000	7,000	3-85	25,000	33,000
1950.....	13,000	47-0	6,000	7,000	3-76	26,000	32,000
1951.....	15,000	52-0	8,000	5,000	4-18	21,000	29,000
1952.....	11,000	54-0	6,000	6,000	4-13	25,000	31,000
1953.....	6,000	53-0	3,000	2,000	4-24	8,000	11,000
1954.....	14,000	56-0	8,000	4,000	4-34	17,000	25,000
New Brunswick—							
Av. 1945-49 ¹	91,000	46-0	42,000	12,000	4-12	49,000	91,000
1950.....	86,000	43-0	37,000	14,000	4-00	56,000	93,000
1951.....	90,000	46-0	41,000	10,000	4-27	43,000	84,000
1952.....	114,000	50-0	57,000	12,000	4-30	52,000	109,000
1953.....	38,000	47-0	18,000	5,000	4-85	24,000	42,000
1954.....	32,000	56-0	18,000	11,000	4-60	51,000	69,000
Quebec—							
Av. 1945-49 ¹	2,270,000	32-0	736,000	1,863,000	3-34	6,224,000	6,960,000
1950.....	1,692,000	37-0	626,000	2,273,000	3-44	7,819,000	8,445,000
1951.....	1,500,000	39-0	585,000	1,750,000	3-55	6,212,000	6,797,000
1952.....	2,020,000	42-0	848,000	2,777,000	3-33	9,247,000	10,095,000
1953.....	1,266,000	39-0	494,000	1,688,000	3-69	6,229,000	6,723,000
1954.....	1,110,000	44-0	488,000	2,025,000	4-60	9,315,000	9,803,000
Ontario—							
Av. 1945-49 ¹	29,000	38-0	11,000	373,000	3-82	1,422,000	1,433,000
1950.....	33,000	40-0	13,000	507,000	4-05	2,053,000	2,066,000
1951.....	44,000	43-0	19,000	379,000	4-29	1,626,000	1,645,000
1952.....	16,000	47-0	8,000	459,000	4-21	1,932,000	1,940,000
1953.....	14,000	52-0	7,000	121,000	4-32	523,000	550,000
1954.....	19,000	56-0	11,000	264,000	4-28	1,130,000	1,141,000
Totals—							
Av. 1945-49 ¹	2,407,000	33-1	796,000	2,254,000	3-42	7,721,000	8,517,000
1950.....	1,824,000	37-4	682,000	2,801,000	3-55	9,954,000	10,636,000
1951.....	1,649,000	39-6	653,000	2,144,000	3-69	7,902,000	8,555,000
1952.....	2,161,000	42-5	919,000	3,254,000	3-46	11,256,000	12,175,000
1953.....	1,324,000	39-4	522,000	1,816,000	3-74	6,784,000	7,306,000
1954.....	1,175,000	44-7	525,000	2,304,000	4-58	10,513,000	11,038,000

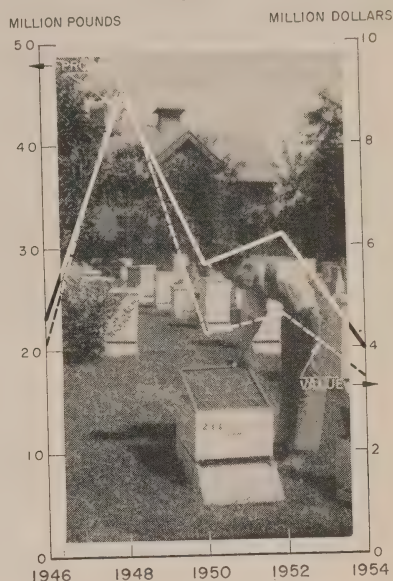
¹ Five year average prices are derived from actual figures but quantities and values are rounded to the nearest thousand.

TOTAL PRODUCTION AND GROSS FARM VALUE SELECTED COMMERCIAL CROPS CANADA 1946-54

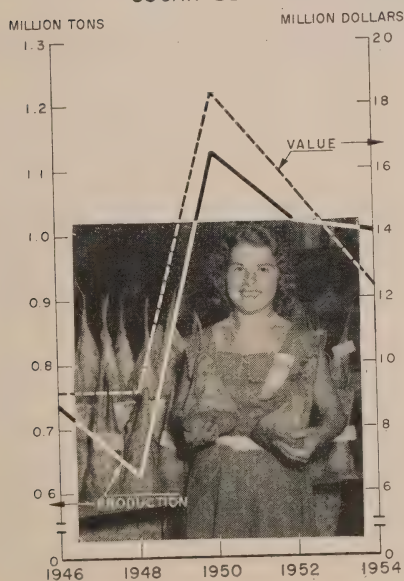
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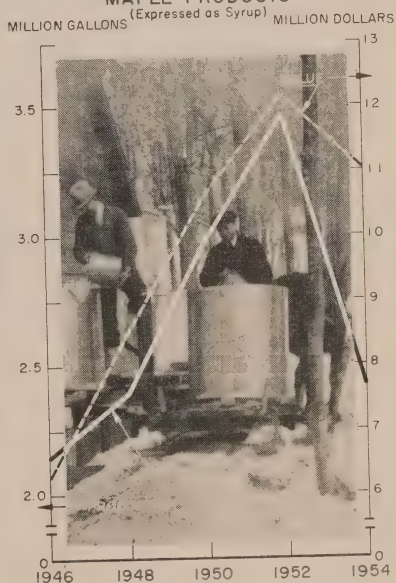
HONEY



SUGAR BEETS



MAPLE PRODUCTS



Fibre Flax.—The demand for fibre flax was heavy during World War II when exports increased to many times the prewar volume. After the War however exports of fibre flax to Canada's principal market, the United Kingdom, dropped sharply and acreage devoted to this crop decreased; in 1954 it was at the lowest level since 1931.

39.—Acreages, Yields and Values of Flaxseed, Fibre and Tow 1950-54 and Average for 1945-49

Year	Area	Production			Values			
		Seed	Fibre	Green Tow	Seed	Fibre	Green Tow	Total
	acres	bu.	lb.	tons	\$	\$	\$	\$
Av. 1945-49	13,991	57,000	2,852,000	136	301,000	751,000	9,000	1,061,000
1950.....	4,569	25,000	946,000	—	133,000	294,000	—	427,000
1951.....	7,555	42,000	2,660,000	—	210,000	538,000	—	748,000
1952.....	7,166	35,000	1,470,000	—	158,000	246,000	—	404,000
1953.....	3,000	25,000	666,000	—	68,000	96,000	—	164,000
1954.....	2,000	7,000	442,000	—	23,000	76,000	—	99,000

Subsection 9.—Prices of Agricultural Produce

The monthly index of farm prices of agricultural products was designed to measure changes occurring in the average prices farmers receive at the farm from the sale of farm products. In comparing current index numbers with those before August 1954 certain points should be considered. Western grain prices used in the construction of the index before Aug. 1, 1954 are final prices for all grains. Since Aug. 1, 1954 only initial prices are available for western wheat and only initial prices plus interim payments for western oats and barley. Any subsequent participation payments made on the 1954 crops will be added to the prices currently used and the index revised upward accordingly.

40.—Average Index Numbers of Farm Prices of Agricultural Products by Province 1945-52 and by Month 1953 and 1954

(1935-39=100)

NOTE.—A description of this index, its coverage and the methods used will be found in *DBS Quarterly Bulletin of Agricultural Statistics* for October-December 1946.

Year and Month	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
1945 Averages	196.7	180.8	195.3	179.5	174.6	188.4	192.6	196.2	187.8	185.7
1946 Averages	194.2	191.2	207.7	196.9	187.9	209.4	217.3	219.9	199.2	204.1
1947 Averages	180.1	184.9	199.6	213.7	202.1	225.9	226.1	231.9	207.1	215.8
1948 Averages	236.6	214.1	250.3	265.6	258.6	259.6	247.1	262.9	240.2	255.8
1949 Averages	204.1	210.5	220.5	261.3	257.8	262.8	248.8	265.6	245.1	255.4
1950 Averages	189.6	206.5	216.8	260.9	265.1	274.4	251.5	276.2	244.3	260.8
1951 Averages	236.4	243.2	250.8	305.6	315.0	301.6	268.7	308.0	287.1	296.8
1952 Averages	351.6	275.1	344.5	290.2	286.2	266.8	245.9	265.3	291.4	274.4
1953										
January.....	278.8	260.3	283.6	280.4	272.5	263.0	242.9	257.6	272.7	263.6
February.....	237.5	246.3	256.4	279.2	268.8	256.9	241.2	254.6	273.5	259.6
March.....	207.3	241.9	222.3	278.6	267.1	257.5	240.3	254.8	268.7	257.7
April.....	163.6	226.7	195.2	266.4	257.8	253.6	237.8	252.2	267.1	250.7
May.....	168.7	219.9	200.3	269.5	260.0	253.7	240.1	256.2	264.1	252.8
June.....	192.6	227.4	207.4	279.3	269.9	260.1	240.9	265.2	271.5	260.2
July.....	177.6	225.3	213.7	274.2	265.0	253.5	238.3	257.4	264.6	255.2
August.....	193.4	232.6	217.8	273.6	267.6	233.6	216.2	241.5	268.0	247.0
September.....	177.0	246.1	199.6	265.5	262.7	231.0	214.3	237.9	261.9	242.8
October.....	170.2	245.3	200.4	268.8	265.2	229.7	213.1	234.9	265.4	243.0
November.....	165.7	243.1	183.6	262.4	254.4	224.5	209.6	229.9	260.6	236.3
December.....	165.2	236.4	178.0	266.8	253.8	226.2	209.4	231.5	260.8	236.8
1953 Averages	191.5	237.6	213.2	272.1	263.7	245.3	228.7	247.8	266.6	250.5

40.—Average Index Numbers of Farm Prices of Agricultural Products by Province 1945-52 and by Month 1953 and 1954—concluded

Year and Month	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
1954										
January.....	172.7	239.2	189.6	268.1	258.2	229.9	212.7	235.5	257.1	240.2
February.....	176.7	239.2	194.0	271.5	259.0	230.8	212.7	235.6	255.8	241.1
March.....	176.8	236.8	197.2	270.5	256.0	231.4	212.0	237.1	251.1	240.1
April.....	179.3	235.5	204.9	265.1	252.3	229.4	212.9	237.3	248.2	238.4
May.....	182.1	237.0	206.3	265.1	254.9	231.3	213.1	241.4	250.9	240.4
June.....	186.1	242.4	207.0	267.8	256.0	233.9	215.1	241.6	253.2	242.0
July.....	186.6	243.5	210.1	269.4	258.2	233.3	212.3	236.0	254.3	241.3
August.....	232.6	253.6	240.5	260.9	252.1	217.4	195.7	219.7	264.7	232.2
September.....	229.9	244.6	226.9	258.0	248.2	213.7	192.3	216.1	258.5	228.3
October.....	199.2	251.0	217.2	253.7	244.5	205.0	180.7	204.7	255.6	220.7
November.....	223.4	255.5	228.8	258.1	245.8	202.9	175.4	201.0	253.7	220.2
December.....	215.9	253.0	218.0	261.0	247.0	204.1	176.0	201.6	249.0	220.7
1954 Averages.....	196.8	244.3	211.7	264.1	252.7	221.9	200.9	225.6	254.3	233.8

Monthly prices of grain and monthly prices of livestock are shown in *DBS Quarterly Bulletin of Agricultural Statistics*.

41.—Yearly Average Cash Prices per Bushel of Canadian Cereals—Basis, in Store at Fort William and Port Arthur, Ont.—Crop Years Ended July 31, 1945-54

NOTE.—Statistics for 1926-44 are given in the corresponding tables of previous editions of the Year Book.

Year Ended July 31—	Averages in Cents and Eighths per Bushel				
	Wheat, ¹ No. 1 N.	Oats, ² No. 2 C.W.	Barley, ² No. 2 C.W. —6 Row	Rye, ³ No. 2 C.W.	Flaxseed, ³ No. 1 C.W.
	cts.	cts.	cts.	cts.	cts.
1945.....	143/6	61/4	87/3	126/2	275 ⁴
1946.....	183/3	61/4	84/6	223/7	275 ⁴
1947.....	183/3	66/2	93/4	287/6	325 ⁴
1948.....	183/3	90	119/7	374/5	550 ⁵
1949.....	183/3	78/1	124/3	140	403/1 ⁶
1950.....	183/3	90/4	158/7	146	371/6
1951.....	185/4	95/4	147/4	184/5	441/4
1952.....	182/2	90/6	132/5	193/5	428/1
1953.....	185/6	79/7	133/5	158/2	328/5
1954.....	156/3	72/7	108/1	99/1	283/6

¹ Initial payments plus additional payments to producers. ² Based on cash closing prices, Winnipeg Grain Exchange. From Aug. 1, 1944 to Oct. 22, 1947 prices of oats and barley remained at or near the government-imposed ceiling prices. From Oct. 23, 1947 to July 31, 1949 open market trading again prevailed. Equalization payments to producers are included for the crop years 1944-45 to 1947-48, inclusive. ³ Average cash closing price, Winnipeg Grain Exchange, except where otherwise noted. ⁴ Fixed price to growers. ⁵ \$5 fixed price to growers plus 50 cents participation payment. ⁶ Winnipeg Grain Exchange renewed trading in flaxseed cash and futures on Aug. 16, 1948. The Canadian Wheat Board was authorized to buy all flaxseed offered to it during the 1948-49 crop year on the basis of \$4 per bushel for No. 1 C.W. in store Fort William-Port Arthur, Ont.

42.—Yearly Average Prices per 100 lb. of Canadian Livestock at Principal Markets 1950-54

Item	Toronto					Montreal				
	1950	1951	1952	1953	1954	1950	1951	1952	1953	1954
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Steers, up to 1,000 lb., good.....	24-74	32-60	25-15	20-25	19-25	26-67	32-75	26-90	20-39	20-10
Steers, up to 1,000 lb., medium.....	23-45	31-51	23-85	18-74	17-87	24-63	31-04	23-88	18-60	17-67
Steers, up to 1,000 lb., common.....	22-06	29-46	19-85	15-53	14-67	20-66	27-18	19-36	14-00	14-26
Steers, over 1,000 lb., good.....	26-72	33-49	25-85	20-11	19-34	26-83	33-00	26-54	20-38	20-12
Steers, over 1,000 lb., medium.....	25-16	32-46	24-00	18-55	17-99	25-30	31-45	23-77	18-47	18-13
Steers, over 1,000 lb., common.....	22-80	31-04	20-10	16-07	15-08	22-15	27-97	17-95	14-39	15-14
Heifers, good.....	24-35	31-85	24-55	19-82	17-17	25-04	31-38	23-38	17-03	16-17
Heifers, medium.....	23-78	30-94	23-10	18-17	16-11	22-64	28-01	21-34	15-55	13-87
Calves, fed, good.....	25-44	32-84	25-65	20-86	19-77	27-33	33-41	27-17	20-94	19-81
Calves, fed, medium.....	23-78	31-19	23-80	18-95	18-42	23-78	31-26	23-53	15-72	17-05
Cows, good.....	20-07	26-95	18-55	13-12	12-01	20-21	26-55	18-85	13-63	12-12
Cows, medium.....	18-59	25-43	16-80	12-27	11-10	17-82	24-51	16-48	11-81	10-52
Bulls, good.....	21-93	29-30	18-50	13-89	13-10	18-42	28-31	18-55	14-46	13-05
Stocker and feeder steers, good.....	26-36	33-65	23-00	19-35	18-30	1	1	21-30	20-50	18-00
Stocker and feeder steers, common.....	23-61	30-99	20-15	16-04	15-79	1	1	15-20	17-16	16-50
Stock cows and heifers, good.....	1	1	1	1	1	1	1	1	16-93	1
Stock cows and heifers, common.....	16-66	23-92	17-05	11-56	1	1	1	15-27	12-00	1
Calves, veal, good and choice.....	29-61	36-55	27-90	24-62	23-78	27-11	36-60	26-55	23-30	21-23
Calves, veal, common and medium.....	24-20	31-96	21-85	19-33	18-10	22-28	33-48	22-84	19-13	17-28
Hogs, Grade B-1, dressed.....	28-98	32-85	25-70	30-40	30-90	29-03	32-95	25-75	30-90	31-05
Lambs, good.....	28-33	33-95	26-05	23-37	21-60	27-86	32-60	25-05	22-73	20-38
Lambs, common.....	23-97	30-28	21-10	18-63	17-35	22-18	26-88	17-40	17-12	14-94
Sheep, good.....	14-32	19-77	14-80	9-52	9-03	13-78	19-82	13-23	8-95	9-43

Item	Winnipeg					Edmonton				
	1950	1951	1952	1953	1954	1950	1951	1952	1953	1954
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Steers, up to 1,000 lb., good.....	24-55	31-70	24-00	18-25	17-45	24-30	31-75	23-45	18-42	17-70
Steers, up to 1,000 lb., medium.....	22-37	29-42	21-12	16-03	15-12	23-18	30-18	21-97	16-69	15-91
Steers, up to 1,000 lb., common.....	19-84	26-60	17-74	12-87	11-85	19-96	26-76	17-37	12-30	12-44
Steers, over 1,000 lb., good.....	24-38	31-82	23-93	18-02	17-35	24-39	31-84	23-82	18-14	17-45
Steers, over 1,000 lb., medium.....	22-94	29-40	20-69	15-57	15-01	23-21	30-12	21-83	16-57	15-85
Steers, over 1,000 lb., common.....	20-20	26-65	17-61	12-47	11-85	20-64	27-00	18-37	13-18	13-15
Heifers, good.....	22-43	29-24	20-61	15-81	14-21	21-92	29-94	21-38	16-62	15-02
Heifers, medium.....	20-90	26-82	18-06	13-51	11-87	21-65	27-77	19-65	14-76	13-45
Calves, fed, good.....	24-64	32-03	23-79	18-78	17-52	23-51	31-45	22-78	17-99	16-83
Calves, fed, medium.....	22-35	29-79	20-63	16-18	15-29	21-38	29-46	20-94	16-84	15-60
Cows, good.....	18-91	25-74	16-00	11-48	10-64	18-47	25-51	16-45	11-26	10-27
Cows, medium.....	17-20	23-79	13-78	9-86	9-25	17-15	23-84	14-60	9-45	9-11
Bulls, good.....	21-32	28-24	15-59	12-30	11-33	20-49	27-70	15-76	11-77	11-23
Stocker and feeder steers, good.....	24-56	30-45	19-55	15-01	15-15	24-34	30-60	20-60	15-54	14-95
Stocker and feeder steers, common.....	21-18	27-24	15-22	11-05	10-50	20-34	26-13	15-94	11-92	11-70
Stock cows and heifers, good.....	19-69	26-84	17-41	12-47	11-60	18-88	26-22	17-02	12-50	10-85
Stock cows and heifers, common.....	16-67	23-23	13-87	9-17	8-06	16-22	22-91	12-05	9-09	7-88
Calves, veal, good and choice.....	29-00	35-45	26-10	22-68	21-85	27-24	36-30	26-90	22-86	19-90
Calves, veal, common and medium.....	22-04	28-81	19-51	15-73	14-65	22-74	28-75	19-51	14-87	13-23
Hogs, Grade B-1, dressed.....	27-76	30-85	24-45	27-40	27-85	28-40	32-70	24-60	28-78	28-05
Lambs, good.....	26-62	32-05	22-85	19-85	18-45	24-06	31-45	22-45	20-19	18-95
Lambs, common.....	20-64	26-56	18-98	15-27	13-75	20-91	26-87	17-82	17-13	15-67
Sheep, good.....	10-28	12-53	9-64	5-32	4-63	11-82	15-43	12-42	9-41	9-43

¹ No sales reported.

Subsection 10.—Food Consumption

Consumption of Major Foods.—A study of consumption of the major foods was undertaken during World War II by the Dominion Bureau of Statistics in recognition of the national and international significance of such information. Though data on total consumption of certain commodities such as wheat, alcoholic beverages, meats, etc. have been available for a considerable period, it was found necessary to establish a per capita level of consumption of a wide range of products on a comparable basis.

The figures represent available supplies, including production and imports, adjusted for change of stocks, exports, marketing losses and industrial uses. All calculations have been made at the retail stage of distribution, except for meats, where the figures are worked out at the wholesale stage. The amount of food actually eaten would be somewhat lower than indicated because of losses and waste occurring after the products reached the hands of the consumer. It should also be pointed out that there are minor discrepancies in certain of the figures since statistics of storage stocks in the hands of retailers and consumers were not available.

All basic foods have been classified under 13 main commodity groups. Totals for each group have been computed using common denominators for the group, for example: milk solids (dry weight) in the dairy products group; fat content for fats and oils; and fresh equivalent for fruits. All foods have been included in their basic form, that is, as flour, fat, sugar, etc., rather than in more highly manufactured forms.

The series in Table 43 represents the official estimates of yearly supplies of food moving into consumption, expressed in pounds per capita, for the years 1935-39 as an average for comparison with the years 1952, 1953 and 1954.

43.—Per Capita Supplies of Food Moving into Consumption 1952-54 and Average for 1935-39

Kind of Food and Weight Base	Pounds per Capita per Annum				Percentages of 1935-39 Average		
	Average 1935-39	1952	1953	1954	1952	1953	1954
Cereals.....Retail wt.	295.7	167.5	162.3	165.5	51.4	78.9	80.5
Flour (including rye flour) ¹	184.8	151.6	145.4	147.6	62.0	78.7	79.9
Oatmeal and rolled oats.....	"	7.3	5.5	5.2	2.5	71.2	78.1
Pot and pearl barley.....	"	0.3	0.3	0.3	0.1	100.0	100.0
Corn meal and flour.....	"	1.4	0.6	0.6	0.5	42.9	35.7
Buckwheat flour.....	"	0.2	0.1	0.1	0.1	50.0	50.0
Rice.....	"	4.3	3.0	4.1	4.7	69.8	109.3
Breakfast food.....	"	7.4	6.4	6.6	6.6	86.5	89.2
Potatoes.....Retail wt.	192.9	147.4	156.4	146.2	76.4	81.1	75.8
Potatoes, white.....	192.3	146.9	155.9	145.6	76.4	81.1	75.7
Potatoes, sweet.....	"	0.6	0.5	0.6	83.3	83.3	100.0
Sugars and Syrups.....Sugar content	101.7	103.8	102.2	101.5	102.1	100.5	99.8
Sugar.....Refined wt.	94.7	97.7	96.6	96.3	103.2	102.0	101.7
Maple sugar.....Retail wt.	1.8	1.4	0.5	0.9	77.8	27.8	50.0
Other.....	8.2	7.1	8.1	6.6	86.6	98.8	80.5
Starch.....Retail wt.	2.5	1.6	1.6	1.6	64.0	64.0	64.0
Pulses and Nuts.....Retail wt.	14.5	10.3	11.3	9.9	71.0	77.9	68.3
Dry beans.....	3.7	3.6 ²	3.7 ²	3.0 ²	97.3	100.0	81.1
Dry peas.....	"	5.7	1.4	1.8	1.0	24.6	17.5
Peanuts.....Shelled wt.	2.2	2.7	2.8	2.9	122.7	127.3	131.8
Tree nuts.....	1.1	1.1	1.3	1.4	100.0	118.2	127.3
Cocoa.....Green beans	3.7	3.1	3.5	3.4	83.8	94.6	91.9
Fruit.....Fresh equiv.	138.7	212.1	213.7	216.8	152.9	154.1	156.3
Tomatoes and Citrus Fruit—							
Tomatoes, fresh.....Retail wt.	15.4	18.8	20.0	19.4	122.1	129.9	126.0
Tomato products.....Net wt. canned	10.0	13.3	15.0	18.0	133.0	150.0	180.0
Citrus fruit, fresh.....Retail wt.	25.1	37.5	39.0	38.5	149.4	155.4	153.4
Citrus fruit, canned.....Net wt. canned	0.5	9.2	10.6	10.8	1,840.0	2,120.0	2,160.0
Other Fruit—							
Fresh.....Retail wt.	40.5	68.1	62.2	60.0	168.1	153.6	148.1
Canned.....Net wt. canned	6.3	12.6	14.3	15.9	200.0	227.0	252.4
Dried.....Processed wt.	8.3	6.9	6.6	6.0	83.1	79.5	72.3
Juice.....Net wt. canned	..	4.2	4.0	4.4	..	..	..
Frozen.....Retail wt.	0.2	0.5	1.0	1.2	250.0	500.0	600.0
Vegetables.....Fresh equiv.	78.4	90.2	90.0	91.9	115.1	114.8	117.2
Fresh—							
Cabbage and greens.....Retail wt.	16.2	19.9	18.9	20.5	122.8	116.7	126.5
Carrots.....	15.4	11.6	11.4	11.9	75.3	74.0	77.3
Legumes.....	6.2	3.4	3.2	2.5	54.8	51.6	40.3
Other.....	29.8	36.1	36.6	37.4	121.1	122.8	125.5
Canned.....Net wt. canned	10.8	18.4	18.8	18.1	170.4	174.1	167.6
Frozen.....Retail wt.	..	0.8	1.1	1.5	..	..	..

For footnotes, see end of table.

43.—Per Capita Supplies of Food Moving into Consumption 1952-54 and Average for 1935-39—concluded

Kind of Food and Weight Base	Pounds per Capita per Annum				Percentages of 1935-39 Average		
	Average 1935-39	1952	1953	1954	1952	1953	1954
Oils and Fats Fat content	41.4	44.0	43.0	44.3	106.3	103.9	107.0
Margarine..... Retail wt.	..	7.7	7.5	7.6	..	..	..
Lard.....	3.9	10.0	8.4	8.4	256.4	215.4	215.4
Shortening.....	10.6	8.3	9.2	10.2	78.3	86.8	96.2
Salad and cooking oil.....	1.8	2.7	2.5	2.9	150.0	138.9	161.1
Butter.....	31.0	20.8	20.9	20.7	67.1	67.4	66.8
Meat Carcass wt.	118.1	134.0	142.3	146.4	113.5	120.5	124.0
Pork.....	39.8	63.2	55.0	53.7	158.8	138.2	134.9
Beef.....	54.7	48.6	64.5	72.0	88.8	117.9	131.6
Veal.....	10.5	6.1	8.2	10.1	58.1*	78.1	96.2
Mutton and lamb.....	5.6	1.9	2.3	2.5	33.9	41.1	44.6
Offal.....	5.8	5.4	5.1	5.3	93.1	87.9	91.4
Canned meat..... Net wt. canned	1.4	6.2	5.7	2.9	442.9	407.1	207.1
Poultry and Fish Edible wt.	22.4	30.6	28.8	30.3	136.6	128.6	135.3
Hens and chickens..... Retail wt. dressed	15.6	24.8*	21.6*	22.5*	159.0	138.5	144.2
Other poultry.....	2.8	4.8*	4.8*	6.1*	171.4	171.4	217.9
Fish and shellfish, fresh and frozen..... Edible wt.	4	6.8	6.9	7.1	4	4	4
Fish, cured (smoked, salted, pickled).....	4	2.2	2.1	2.0	4	4	4
Fish and shellfish, canned..... Net wt. canned	2.7	4.7	4.7	4.7	174.1	174.1	174.1
Milk and Cheese Milk solids	52.0	62.9	64.3	64.2	121.0	123.7	123.5
Cheddar cheese ⁶ Retail wt.	3.7	5.1	5.4	5.4	137.8	145.9	145.9
Other cheese.....	0.2	0.8	0.8	0.8	400.0	400.0	450.0
Cottage cheese.....	0.2	0.7	0.8	0.8	350.0	400.0	400.0
Evaporated whole milk.....	6.1	18.4	18.6	18.2	301.6	304.9	298.4
Condensed whole milk.....	0.6	0.8	0.9	0.8	133.3	150.0	133.3
Whole milk powder.....	0.1	0.4	0.4	0.3	400.0	400.0	300.0
Condensed skim milk.....	0.4	0.3	0.3	0.3	75.0	75.0	75.0
Skim milk powder.....	1.8	3.5	4.4	4.7	194.4	244.4	261.1
Evaporated skim milk.....	0.1	0.7	0.7	0.8	700.0	700.0	800.0
Condensed buttermilk.....	0.1	0.2	0.1	0.1	200.0	100.0	100.0
Milk in ice cream.....	10.9	33.0	33.0	32.0	302.8	302.8	293.6
Powdered buttermilk.....	0.2	0.5	0.4	0.4	250.0	200.0	200.0
Fluid whole milk ⁶	408.5	402.5*	406.5*	405.2*	98.5	99.5	99.2
Beverages Primary distribution wt.	7.2	10.0	10.3	9.1	138.9	143.1	126.4
Tea.....	3.5	3.2	3.1	2.9	91.4	88.6	82.9
Coffee..... Green beans	3.7	6.8	7.2	6.2	183.8	194.6	167.6

* Fluctuations in apparent per capita flour consumption are owing partly to unavailability of complete data on flour inventories in all positions. ² Includes soybean flour. ³ Exclusive of Newfoundland. ⁴ Break-down according to current classification not available. ⁵ Includes process cheese. ⁶ Includes cream expressed as milk.

Consumption of Meats.—Production of meats from slaughter in Canada, total supply, distribution and per capita consumption of meats and lard are shown in Table 44. All estimates are on a carcass weight basis except canned meats which are in terms of product.

44.—Supply, Distribution and Consumption of Meats and Lard 1950-54 and Average for 1935-39

Item	Average 1935-39	1950	1951	1952	1953	1954
Beef—						
Animals slaughtered in Canada..... '000	1,347.0	1,729.3	1,472.0	1,558.5	1,983.8	2,266.1
Estimated dressed weight ¹ '000 lb.	618,556	790,395	708,546	783,148	983,807	1,100,060
On hand, Jan. 1.....	22,684	23,415	22,174	19,497	32,961	35,756
Imports ²	158 ³	10,587	10,112	9,289	11,537	18,821
Totals, Supply.....	641,398	824,397	740,832	811,934	1,028,305	1,154,337
Exports ²	10,899	90,740	96,605	68,072	28,920	22,580
Used for canning.....	1,406	14,582	11,701	9,199	9,651	11,625
On hand, Dec. 31.....	24,040	22,174	19,497	32,961	35,756	25,673
TOTALS, CONSUMPTION.....	605,053	696,901	613,029	701,702	953,978	1,094,459
CONSUMPTION PER CAPITA..... lb.	54.7	50.3	43.8	48.6	64.5	72.0

For footnotes, see end of table.

44.—Supply, Distribution and Consumption of Meats and Lard 1950-54 and Average for 1935-39—continued

Item	Average 1935-39	1950	1951	1952	1953	1954
Veal—						
Animals slaughtered in Canada..... '000	1,333.6	1,387.4	1,166.3	859.8	1,172.0	1,464.6
Estimated dressed weight ¹ '000 lb.	116,372	125,958	110,407	89,306	124,469	153,774
On hand, Jan. 1..... "	3,452	6,327	3,356	4,171	3,891	5,520
Imports..... "	4	4	4	4	5	5
Totals, Supply..... "	119,824	132,285	113,763	93,477	128,360	159,294
Exports..... "	—	4	4	4	5	5
Used for canning..... "	22	1,605	1,182	1,736	1,454	1,366
On hand, Dec. 31..... "	3,785	3,356	4,171	3,891	5,520	3,954
TOTALS, CONSUMPTION..... "	116,017	127,324	108,410	87,850	121,386	153,974
CONSUMPTION PER CAPITA..... lb.	10.5	9.2	7.7	6.1	8.2	10.1
Pork—						
Animals slaughtered in Canada..... '000	5,165.1	7,650.4	7,961.6	8,864.1	6,892.1	7,081.8
Estimated dressed weight ¹ '000 lb.	620,522	963,757	1,005,695	1,143,331	885,424	917,106
On hand, Jan. 1..... "	34,511	35,445	31,292	39,000	68,813	30,752
Imports ² "	7,394	5,733	22,456	4,677	481	1,525
Totals, Supply..... "	662,427	1,004,935	1,059,443	1,187,008	954,718	949,383
Exports ² "	179,630	85,099	21,382	15,041	55,320	60,607
Used for canning..... "	4,602	46,835	48,754	190,911	55,935	39,093
On hand, Dec. 31..... "	37,863	31,292	39,000	68,813	30,752	33,996
TOTALS, CONSUMPTION..... "	440,332	841,709	950,307	912,243	812,711	815,687
CONSUMPTION PER CAPITA..... lb.	39.8	60.8	67.8	63.2	55.0	53.7
Mutton and Lamb—						
Animals slaughtered in Canada..... '000	1,543.0	855.7	824.8	595.9	679.3	708.4
Estimated dressed weight ¹ '000 lb.	61,417	35,691	35,973	26,318	29,136	30,155
On hand, Jan. 1..... "	6,190	5,023	3,894	3,584	4,482	3,533
Imports ² "	422	486	3,499	2,661	4,745	7,324
Totals, Supply..... "	68,029	41,200	43,366	32,563	38,363	41,012
Exports ² "	248	2,761	2,737	46	52	53
Used for canning..... "	37	220	205	350	310	301
On hand, Dec. 31..... "	5,965	3,894	3,584	4,482	3,533	3,111
TOTALS, CONSUMPTION..... "	61,779	34,325	36,840	27,685	34,468	37,547
CONSUMPTION PER CAPITA..... lb.	5.6	2.5	2.6	1.9	2.3	2.5
Canned Meats—						
Estimated production..... '000 lb.	5,624	53,485	54,545	144,183	56,249	57,450
Imports..... "	12,292	10,969	23,977	14,185	11,543	15,978
Change in stocks ³ "	..	+94	+879	+54,442	-39,017	-20,936
Exports..... "	1,999	8,430	9,258	14,874	22,748	50,220
TOTALS, CONSUMPTION..... "	15,917	55,930	68,385	89,052	84,061	44,144
CONSUMPTION PER CAPITA..... lb.	1.4	4.0	4.9	6.2	5.7	2.9
Offal—						
Estimated production..... '000 lb.	64,611	84,446	79,739	81,209	81,393	89,372
Imports..... "	..	1,483	4,348	1,594	4,121	3,769
Totals, Supply..... "	64,611	85,929	84,087	82,803	85,514	93,141
Exports..... "	..	5,657	7,223	2,535	6,680	8,954
Used for canning..... "	583	3,258	2,923	2,493	3,509	3,871
TOTALS, CONSUMPTION..... "	64,028	77,014	73,941	77,775	75,325	80,316
CONSUMPTION PER CAPITA..... lb.	5.8	5.6	5.3	5.4	5.1	5.3

For footnotes, see end of table.

44.—Supply, Distribution and Consumption of Meats and Lard 1950-54 and Average for 1935-39—concluded

Item	Average 1935-39	1950	1951	1952	1953	1954
Lard—						
Estimated production ¹ '000 lb.	63, 237	109, 652	117, 874	186, 972	139, 313	138, 751
Imports..... "	56	13, 031	12, 045	1, 265	6, 790	2, 850
Change in stocks..... "	+278	-629	+2, 615	+2, 404	-7, 436	+566
Exports..... "	19, 485	126	84	14, 289	1, 426	676
TOTALS, CONSUMPTION..... "	43, 530	123, 186	127, 220	171, 544	152, 113	140, 359
CONSUMPTION PER CAPITA..... lb.	3-9	8-9	9-1	11-9	10-3	9-2

¹ Edible meat excluding offal. ² Basis cold dressed carcass weight. ³ Includes edible offal of beef and veal. ⁴ Quantity small; included with beef. ⁵ Edible meat excluding fats and offal. ⁶ The positive changes represent deductions from the available supply during a given year and therefore are subtracted; similarly negative changes represent an increase in disappearance. ⁷ Includes rendered pork fat.

Section 5.—Agricultural Statistics of the Census

Summary agricultural statistics recorded by the Census of 1951 are given in the 1954 Canada Year Book, pp. 438-447. They include information relating to occupied farms classified by province, tenure and size, farm operators classified by age and province, farm machinery, farm electrification and farm areas. More detailed information may be obtained from the Ninth Census of Canada, 1951 specifically the *Census of Canada 1951* Vol. VI, Parts I and II.

Section 6.—International Crop Statistics

Tables 45 and 46 are based on estimates published in March 1955 by the Foreign Agricultural Service, United States Department of Agriculture, and give the acreages and production of wheat and the production of oats and barley for the harvests of 1953 and 1954 and averages for the years 1945-49 in the leading countries of the world.

45.—Estimated Acreages and Production of Wheat Harvested in 1953 and 1954 in Specified Countries and Average for 1945-49

Continent and Country	Acreages			Production of Wheat		
	Average 1945-49	1953	1954	Average 1945-49	1953	1954
	'000 acres	'000 acres	'000 acres	'000 bu.	'000 bu.	'000 bu.
Totals, North America¹.....	97, 040	94, 860	79, 850	1, 585, 000	1, 809, 000	1, 300, 000
Canada.....	24, 717	25, 513	24, 267	366, 349	613, 962	298, 909
Mexico.....	1, 244	1, 623	1, 804	15, 522	24, 650	30, 300
United States.....	71, 024	67, 661	53, 712	1, 202, 396	1, 169, 484	969, 781
Totals, Europe¹.....	66, 120	71, 340	73, 120	1, 265, 000	1, 725, 000	1, 710, 000
Austria.....	528	563	578	10, 800	19, 250	16, 700
Belgium.....	371	412	445	14, 733	20, 250	20, 800
Denmark.....	175	173	208	8, 704	10, 430	10, 290
Finland.....	420	355	400	8, 966	9, 500	10, 000
France.....	10, 354	10, 600	11, 675	238, 200	330, 000	386, 500
Greece.....	1, 917	2, 581	2, 540	24, 750	52, 000	45, 000
Ireland.....	561	380	—	17, 746	15, 400	15, 900
Italy.....	11, 742	12, 100	12, 100	227, 200	332, 600	264, 000
Luxembourg.....	32	44	48	800	1, 350	1, 500
Netherlands.....	262	161	272	11, 109	9, 500	14, 590
Norway.....	91	43	47	2, 670	1, 430	1, 480
Portugal.....	1, 665	1, 867	1, 906	14, 190	25, 350	27, 470
Spain.....	9, 640	10, 606	10, 660	116, 700	125, 000	180, 000
Sweden.....	749	959	1, 070	23, 222	36, 340	37, 870
Switzerland.....	223	211	222	7, 800	8, 110	9, 370
United Kingdom.....	2, 148	2, 217	2, 457	77, 505	99, 460	104, 160
Western Germany.....	2, 283	2, 832	2, 713	67, 420	116, 800	105, 600
Other Europe ²	18, 530	20, 230	20, 560	318, 000	417, 000	392, 000

For footnotes, see end of table.

45.—Estimated Acreages and Production of Wheat Harvested in 1953 and 1954 in Specified Countries and Average for 1945-49—concluded

Continent and Country	Acreages			Production of Wheat		
	Average 1945-49	1953	1954	Average 1945-49	1953	1954
	'000 acres	'000 acres	'000 acres	'000 bu.	'000 bu.	'000 bu.
Union of Soviet Socialist Republics (Europe and Asia)	82,200	..	..	885,000	..	..
Totals, Asia¹	111,750	126,720	133,220	1,525,000	1,715,000	1,715,000
China.....	54,447	..	..	864,280	..	..
India ²	23,312	24,285	26,100	212,336	275,630	290,900
Iran.....	..	..	..	70,791	82,500	77,000
Iraq.....	1,593	..	..	14,424	26,000	..
Japan.....	1,655	1,693	1,660	34,325	50,500	55,700
Lebanon.....	166	166	166	2,133	1,950	2,060
Pakistan ³	10,370	9,510	10,650	130,018	105,000	137,500
Syria.....	1,957	2,347	2,720	18,762	29,400	31,200
Turkey.....	9,436	15,840	15,860	125,089	239,950	180,040
Totals, Africa¹	13,740	16,940	17,770	134,000	195,000	210,000
Algeria.....	3,566	4,292	4,497	29,900	40,440	44,830
Egypt.....	1,618	1,858	1,863	42,633	56,800	60,000
French Morocco.....	2,621	3,526	3,813	21,792	40,903	45,560
Tunisia.....	1,907	2,612	3,074	12,320	21,300	22,410
Union of South Africa.....	2,416	3,014	2,857	15,067	21,160	19,760
Totals, South America¹	16,320	18,840	20,450	263,000	330,000	380,000
Argentina.....	11,493	12,345	..	193,740	227,800	275,000
Brazil.....	876	..	..	11,283	25,000	25,000
Chile.....	1,980	1,882	1,980	35,628	35,100	38,270
Peru.....	280	425	420	3,798	6,200	6,100
Uruguay.....	1,060	1,850	1,800	13,124	30,000	26,310
Totals, Oceania	12,802	10,865	10,609	182,983	202,740	171,210
Australia.....	12,662	10,751	10,499	177,742	197,960	166,610
New Zealand.....	140	114	110	5,241	4,780	4,600
World Totals¹	399,970	458,560	457,020	5,840,000	7,310,000	6,825,000

¹ Estimated totals; production totals are rounded to millions, include allowances for any missing data for countries shown and data for producing countries not shown. ² Includes Albania, Bulgaria, Czechoslovakia, Eastern Germany, Hungary, Poland and Roumania. ³ Figures for the periods shown are not strictly comparable since figures for 1953 and 1954 include allowances for non-reporting areas not included for the earlier period shown, but are included in estimated total for Asia.

46.—Estimated Production of Oats and Barley Harvested in 1953 and 1954 in Specified Countries and Average for 1945-49

Continent and Country	Oats			Barley		
	Average 1945-49	1953	1954	Average 1945-49	1953	1954
	'000 bu.	'000 bu.	'000 bu.	'000 bu.	'000 bu.	'000 bu.
Totals, North America¹	1,720,000	1,620,000	1,811,000	424,000	512,000	553,000
Canada.....	341,612	406,960	306,793	144,688	262,065	175,509
Mexico.....	2,152	3,500	4,134	6,032	7,580	7,800
United States.....	1,376,227	1,209,458	1,499,579	273,306	242,544	370,126
Totals, Europe¹	1,293,000	1,445,000	1,365,000	600,000	850,000	830,000
Austria.....	17,424	28,800	23,200	7,127	15,050	14,370
Belgium.....	37,888	31,220	30,200	9,388	13,360	10,550
Denmark.....	67,820	56,700	54,220	64,345	100,170	93,470
Finland.....	35,275	66,000	61,000	8,500	15,000	13,800
France.....	221,821	252,340	245,610	52,500	102,830	115,810
Greece.....	6,058	11,520	10,430	7,359	11,870	10,840
Ireland.....	48,040	40,500	37,000	6,739	10,500	8,167
Italy.....	30,513	41,500	37,600	9,467	14,330	12,770
Luxembourg.....	2,370	2,740	2,330	—	—	—
Netherlands.....	24,125	35,080	32,150	7,147	14,350	9,540
Norway.....	11,137	12,340	10,950	4,014	9,500	10,730

For footnotes, see end of table.

46.—Estimated Production of Oats and Barley Harvested in 1953 and 1954 in Specified Countries and Average for 1945-49—concluded

Continent and Country	Oats			Barley		
	Average 1945-49	1953	1954	Average 1945-49	1953	1954
	'000 bu.	'000 bu.	'000 bu.	'000 bu.	'000 bu.	'000 bu.
Totals, Europe¹—concluded						
Portugal.....	8,270	9,000	8,740	3,835	5,500	5,400
Spain.....	34,390	30,520	35,830	83,528	73,030	96,450
Sweden.....	58,000	65,660	60,590	8,252	21,710	16,720
Switzerland.....	5,568	6,060	5,300	2,745	2,910	2,440
United Kingdom.....	204,692	187,470	169,120	91,895	117,646	104,953
Western Germany.....	144,500	175,970	170,370	43,740	95,160	88,170
Other Europe ²	313,000	359,000	350,000	172,000	208,000	198,000
Union of Soviet Socialist Republics (Europe and Asia).....	720,000	..	..	272,000	..	..
Totals, Asia¹.....	84,000	114,000	109,000	692,000	868,000	828,000
China.....	51,335	..	..	322,240	..	..
India ³	—	—	—	106,255	128,000	127,000
Iran.....	—	—	—	37,157	37,700	37,850
Iraq.....	—	—	—	29,502	50,000	..
Japan.....	6,431	10,060	11,230	56,046	86,900	106,600
Lebanon.....	—	—	—	1,165	690	740
Manchuria.....	—	—	—	5,550	..	..
Pakistan ³	—	—	—	6,922	5,200	..
Syria.....	574	..	..	11,135	13,800	20,670
Turkey.....	14,000	28,650	22,390	68,675	167,180	110,230
Totals, Africa¹.....	20,000	23,000	23,000	107,000	155,000	157,000
Algeria.....	7,694	8,000	7,580	28,120	33,200	37,200
Egypt.....	—	—	—	8,605	4,750	5,330
French Morocco.....	2,376	4,500	4,750	47,320	82,950	80,380
Tunisia.....	958	790	..	7,901	8,300	7,800
Union of South Africa.....	8,415	..	..	1,617	2,200	2,800
Totals, South America¹.....	57,000	80,000	77,000	53,000	66,000	81,000
Argentina.....	47,782	68,270	65,000	35,576	41,060	55,400
Chile.....	5,310	6,700	7,000	4,030	3,500	4,000
Peru.....	—	—	—	6,716	10,500	10,700
Uruguay.....	2,840	4,120	3,870	846	1,850	1,800
Totals, Oceania.....	36,918	42,381	36,500	19,077	46,492	30,156
Australia.....	33,249	41,201	35,000	16,854	42,992	27,156
New Zealand.....	3,669	1,180	1,500	2,223	3,500	..
World Totals¹.....	3,931,000	4,150,000	4,325,000	2,170,000	2,810,000	2,815,000

¹ Estimated totals; these are rounded to millions, include allowances for any missing data for countries shown and for other producing countries not shown.

² Comprises Albania, Bulgaria, Czechoslovakia, Eastern Germany, Hungary, Poland and Roumania.

³ Figures for the periods shown are not strictly comparable since figures for 1953 and 1954 include allowances for non-reporting areas not included for the earlier period shown, but are included in estimated total for Asia.

CHAPTER X.—FORESTRY*

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Land is the basis of the Canadian economy and wise use of the land is the foundation of good forestry. In addition to providing the greatest amount of the most usable woods as economically as possible, good forestry will aid in maintaining agricultural lands against drought and erosion; will continuously protect water-catchment areas and assure supplies of water; will furnish cover for game and fur bearing animals; and will give Canadians and their tourist guests opportunity for recreation which only the forests can provide.

Section 1.—Forest Regions†

The forests of Canada cover a vast area in the north temperate climatic zone. Wide variations in physiographic, soil and climatic conditions cause marked differences in the character of the forests in different parts of the country; hence eight fairly well defined forest regions may be recognized. These regions, with the relative proportion of the total area of all forest regions occupied by each, are as follows:—

Region	Percentage of Total Regional Area	Region	Percentage of Total Regional Area
Boreal.....	82.1	Acadian.....	2.0
Great Lakes-St. Lawrence.....	6.5	Columbia.....	0.8
Subalpine.....	3.7	Deciduous.....	0.4
Montane.....	2.3		
Coast.....	2.2	TOTAL.....	100.0

* Sections of this Chapter that deal with forestry and forest administration have been revised in the Forest Economics Section, Forestry Branch, Department of Northern Affairs and National Resources. Sections dealing with forest and allied industries, except as otherwise noted, have been revised in the Forestry Section, Industry and Merchandising Division, Dominion Bureau of Statistics.

† A more detailed discussion of forest regions is given in Bulletin No. 89, *A Forest Classification for Canada*, by W. E. D. Halliday, a publication of the Forestry Branch, Department of Northern Affairs and National Resources, Ottawa. Accounts of variations in Canadian physiography, climate, etc., are given in Chapter I of this volume.

Boreal Forest Region.—This region comprises the greater part of the forested area of Canada, forming a continuous belt from the Atlantic Ocean westward to the Rocky Mountains and northwestward to Alaska. The white and the black spruces are characteristic tree species; other prominent conifers are tamarack, which ranges throughout the region, balsam fir and jack pine in the eastern and central portions, and alpine fir and lodgepole pine in the western and northwestern parts. Although the region is primarily coniferous there is a general admixture of broadleaved trees such as the white birches and the poplars; these are important in the central and south-central portions, particularly where the region grades into the Grassland Formation of the prairies. In turn the proportion of barrens (non-forested rock, muskeg and tundra) increases in the northern parts until the region finally merges into the Tundra Formation. In the southern parts of the eastern portions of the region there is considerable intrusion of species from the Great Lakes-St. Lawrence Forest Region, such as the white and the red pines, yellow birch, sugar maple, black ash and eastern white cedar.

Subalpine Forest Region.—This is coniferous forest found on the higher slopes of the mountains east of the Coast Ranges. It extends northward to the divide between the drainage of the Skeena, Nass and Peace Rivers and that of the Stikine and Liard Rivers. The characteristic species are Engelmann spruce, alpine fir and lodgepole pine. There is a close relationship with the Boreal Region, from which the black and the white spruces and aspen intrude, more particularly in the northern parts. There is also some entry of Douglas fir from the Montane Forest, and western hemlock, western red cedar and amabilis fir from the Coast Forest. Other species found are western larch, whitebark pine and limber pine.

Montane Forest Region.—This region occupies a large part of the interior uplands of British Columbia, part of the Kootenay Valley and a small area on the east side of the Rocky Mountains. It is a northern extension of the typical forest of much of the western mountain system in the United States, and comes in contact with the Coast, Columbia and Subalpine Forests. Ponderosa pine is a characteristic species of the southern portions, to which it is restricted. Douglas fir is found throughout but more particularly in the central and southern parts. Lodgepole pine and aspen are generally present, the latter being well represented in the north-central portions. Engelmann spruce and alpine fir from the Subalpine Region become important constituents in the northern parts, together with white birch. The Boreal white spruce also enters here. Extensive bunch grass and sage brush communities of the Grassland Formation are found in many of the river valleys.

Coast Forest Region.—This is part of the Pacific Coast forest of North America. Essentially coniferous the Coast Region consists principally of western red cedar and western hemlock, with Douglas fir in the south and Sitka spruce in the north. Amabilis fir and yellow cedar occur widely and, together with mountain hemlock and alpine fir, are common towards the timberline. Western white pine is found in the southern parts. Broadleaved trees such as black cottonwood, red alder and broadleaf maple have a limited distribution in this region. Arbutus and garry oak occur in Canada only on the southeast coast of Vancouver Island and the adjacent mainland. These are species that have entered from the Montane Forest in the United States.

Columbia Forest Region.—A large part of the Kootenay River valley, the upper valleys of the Thompson and Fraser Rivers, and the Quesnel Lake area of British Columbia contain a coniferous forest closely resembling that of the Coast Region. Western red cedar and western hemlock are the characteristic species of this Columbia Region. Associated with these are Douglas fir, which is of general distribution, and, in the southern parts, western white pine, western larch and grand fir. Engelmann spruce from the Subalpine Region is important in the upper Fraser Valley and is found to some extent at the upper levels of the forest in the remainder of the region. Towards lower elevations in the west and in parts of the Kootenay Valley, the forest grades into the Montane Region and in a few places into the Grassland Formation.

Deciduous Forest Region.—A small portion of this forest, widespread in the eastern United States, is found in southwestern Ontario between Lakes Huron, Erie and Ontario. Here with the broadleaved trees common to the Great Lakes-St. Lawrence Forest Region, such as sugar maple, beech, white elm, basswood, red ash, white oak and butternut, are scattered a number of other broadleaved species which have their northern limits in this locality. Among these are the tulip-tree, cucumber-tree, papaw, red mulberry, Kentucky coffee-tree, redbud, black gum, blue ash, sassafras, mockernut, and pignut hickories, and scarlet, black, and pin oaks. There are black walnut, sycamore and swamp white oak also that are largely confined to this region. Conifers are few, mainly scattered white pine, tamarack, red juniper and hemlock.

Great Lakes-St. Lawrence Forest Region.—Along the Great Lakes and the St. Lawrence River valley is a forest of a very mixed nature, characterized by the white and the red pines, eastern hemlock and yellow birch with certain dominant broadleaved species common to the Deciduous Forest Region, such as sugar maple, red maple, red oak, basswood and white elm. Other species with wide range are the eastern white cedar, the largetooth aspen and, to a lesser extent, beech, white oak, butternut and white ash. Boreal species, such as the white and the black spruces, balsam fir, jack pine, poplar and white birch, intrude from the north, and in the east, red spruce from the Acadian Forest becomes abundant in certain portions.

Acadian Forest Region.—The greater part of the Maritime Provinces contains a forest closely related to both the Great Lakes-St. Lawrence and the Boreal Regions. The characteristic species is red spruce, with which are associated balsam fir, yellow birch and sugar maple, with some red pine, white pine, beech and hemlock. Other species of wide distribution are the black and the white spruces, red oak, white elm, black ash, red maple, white birch, wire birch and the poplars. Eastern white cedar and jack pine however are restricted almost entirely to the western half of the region.

Section 2.—Native Tree Species

There are more than 150 tree species in Canada of which 31 are conifers, commonly called 'softwoods'. About two-thirds of these softwoods and about 10 p.c. of the large number of deciduous or 'hardwood' species, are of commercial importance. About 82 p.c. of the volume of merchantable timber is made up of softwood species.

The dominant species existing in each forest region are given in Section 1, preceding. Detailed information is contained in Forestry Branch Bulletin No. 61, *Native Trees of Canada*,* published by the Department of Northern Affairs and National Resources.

Section 3.—Forest Resources

The forested area of Canada (exclusive of Labrador) is estimated at 1,567,517 sq. miles or 44 p.c. of the total land area.

Nearly 740,000 sq. miles or 47 p.c. of the total forested area of Canada is classified as "non-productive", i.e., incapable of producing crops of merchantable wood. However these forests do provide valuable protection for drainage basins and shelter for game and fur bearing animals.

Of the productive portion of the forested area 582,000 sq. miles are considered to be now accessible for commercial operations. The economically inaccessible productive forests contain much valuable timber suitable for lumber and pulpwood. At present it is not economical to conduct cutting operations on these areas but, as low-cost methods of transportation are developed, as accessible forested areas become depleted, and as the demand for wood products increases, these inaccessible productive forests will be brought progressively into commercial development. Owing generally to less favourable climatic conditions the productive capacity of these inaccessible timberlands is expected to be lower than that of the accessible areas now being logged.

* Obtainable from the Queen's Printer, Ottawa, price \$1.50.

The predominant part that lumber and other forest products have played in the development of Canada has resulted in a widespread tendency to evaluate the forests in terms of timber alone. A growing realization of the economic importance of the non-timber values however is bringing about increasing recognition of their true value and thus developing a broader concept of forestry.

Inventories of the forest resources are made periodically by provincial forest authorities and, with their co-operation, the Forestry Branch of the Department of Northern Affairs and National Resources compiles the National Forest Inventory. The latest estimates of the total stand of timber, by province and region, appear in Table 1. These estimates are subject to constant revision as more accurate and complete inventories are compiled.

1.—Estimate of Total Stand of Timber by Type and Size and by Province and Region 1955

Province and Region	Conifers			Broadleaved			Totals		
	Saw Timber	Smaller Material	Total Equivalent Volume	Saw Timber	Smaller Material	Total Equivalent Volume	Saw Timber	Smaller Material	Total Equivalent Volume
Accessible	Million ft. b.m.	'000 cords	Million cu. ft. ¹	Million ft. b.m.	'000 cords	Million cu. ft. ¹	Million ft. b.m.	'000 cords	Million cu. ft. ¹
Newfoundland—									
Labrador.....	5,474	62,041	6,368	416	2,141	265	5,890	64,182	6,633
Island.....	5,857	65,354	6,727	1,039	1,150	305	6,896	66,504	7,032
Prince Edward Island...	220	672	101	47	460	49	267	1,132	150
Nova Scotia.....	4,849	23,167	2,939	1,261	5,363	708	6,110	28,530	3,647
New Brunswick.....	12,250	65,294	8,000	9,500	24,706	4,000	21,750	90,000	12,000
TOTALS, ATLANTIC PROVINCES.....	28,650	216,528	24,135	12,263	33,820	5,327	40,913	250,348	29,462
Quebec.....	37,005	450,495	45,693	12,951	176,108	17,559	49,956	626,603	63,252
Ontario.....	80,117	437,188	53,184	74,861	167,721	29,229	154,978	604,909	82,413
TOTALS, CENTRAL PROVINCES.....	117,122	887,683	98,877	87,812	343,829	46,788	204,934	1,231,512	145,665
Manitoba.....	3,460	24,077	2,739	1,775	20,391	2,088	5,235	44,468	4,827
Saskatchewan.....	5,747	50,157	5,413	10,137	47,822	6,092	15,884	97,979	11,505
Alberta.....	7,000	74,400	7,724	2,080	36,000	3,476	9,080	110,400	11,200
TOTALS, PRAIRIE PROVINCES.....	16,207	148,634	15,876	13,992	104,213	11,656	30,199	252,847	27,532
British Columbia.....	458,016	109,581	100,917	8,136	- -	1,628	466,152	109,581	102,545
Northwest Territories...	660	34,500	3,065	480	16,500	1,498	1,140	51,000	4,563
Yukon Territory.....	1,750	25,000	2,475	250	6,000	560	2,000	31,000	3,035
TOTALS, Accessible.....	622,405	1,421,926	245,345	122,933	504,362	67,457	745,338	1,926,288	312,802
TOTALS, Inaccessible.....	222,851	893,364	120,566	8,707	166,927	15,930	231,558	1,060,291	136,436
Canada.....	845,256	2,315,290	365,851	131,640	671,289	83,387	976,896	2,986,579	449,238

¹ Cubic volumes do not include wood in stumps and unusable tops.

Forest Land Tenure.—Private individuals or corporations own 6 p.c. of the total forested land of Canada and the remaining 94 p.c. is still in the possession of the Crown in the right of the Federal or the Provincial Governments. Rights to cut Crown timber under lease or licence have been granted on 8 p.c. of the total forest land. Some of the unalienated land has already been logged and has reverted to the Crown but it is mainly located in the inaccessible and less accessible areas.

Farm woodlots on the 623,000 farms across Canada cover about 22,780,000 acres (Census of 1951)—13 p.c. of the total farm area and over 6 p.c. of the total accessible productive forest. These small wooded tracts ranging in size from three or four acres to 200 or more acres are among the most accessible forests in Canada. Further, the woodlots of eastern Canada are in general highly productive because they lie in the southern parts of the country and frequently occupy soils that are considerably higher in quality than those typical of the northern forests.

2.—Tenure of Occupied Forest Lands by Province 1955

(Gross area in square miles)

Province	Private Forest Land			Crown Forest Land					Total Occupied Forest Land
	Farm Wood-lots	Other Private Lands	Total	Pulp-wood Licences	Saw Timber Licences	Timber Sales	Permit Berths	Total	
Newfoundland—									
Labrador.....	—	—	—	15,375	—	—	—	15,375	15,375
Island.....	58	3,153	3,211	16,870	—	—	—	16,870	20,081
Prince Edward Island...	540	66	606	—	—	—	—	—	606
Nova Scotia.....	2,884	5,581	8,465	700	—	44	—	744	9,209
New Brunswick.....	3,194	7,932	11,126	3,828	6,905	—	—	10,733	21,859
Quebec.....	9,180	16,333	25,513	72,256	8,958	—	—	81,214	106,727
Ontario.....	6,020	13,035	19,055	87,007	10,802	—	—	97,809	116,864
Manitoba.....	2,833	5,098	7,931	2,716	27	900	6	3,649	11,580
Saskatchewan.....	4,602	2,745	7,347	—	—	—	—	—	7,347
Alberta.....	4,477	4,561	9,038	—	2,500	150	50	2,700	11,738
British Columbia.....	1,806	9,219	11,025	747	2,779	3,594	608	7,728	18,753
Northwest Territories.....	—	—	—	—	—	6	—	6	6
Yukon Territory.....	—	—	—	—	—	15	—	15	15
Canada.....	35,594	67,723	103,317	199,499	31,971	4,709	664	236,843	340,160

Section 4.—Forest Depletion

A general account of forest depletion and increment is presented in this Section. Details of the scientific control of those influences that account for wastage, viz., forest fires, insect pests, etc., are dealt with in Section 5.

The average annual rate and cause of depletion of reserves of merchantable timber during the ten years 1944-53, together with preliminary data for 1954, are given in Table 3. Of the total depletion of the forests in the ten year period 94 p.c. was utilized and 6 p.c. was destroyed by fire. The utilization of 3,140,644,000 cu. feet comprised 39 p.c. logs and bolts, 32 p.c. pulpwood, 25 p.c. fuelwood, and the remaining 4 p.c. miscellaneous products. Approximately 6 p.c. of the total utilization was exported in the form of logs and bolts and pulpwood.

The more efficient utilization of timber that has been cut is one factor related to forest depletion, for there is little doubt that in the past too high a percentage of the sawn log was discarded. Changes of great significance have been taking place in the uses of wood, permitting the utilization of sizes and qualities previously considered unmerchantable. The development and the manufacture of rayon, cellophane and numerous other products in the cellulose industry is rapidly extending the use of wood. The increasing demand for plastic-wood products, fibre board and laminated wood is resulting in greater use of inferior classes of wood and therefore in the more complete utilization of forest resources and in the elimination of much waste.

The accessible portion of the productive forests of Canada cover an area of 582,000 sq. miles and constitute the reserve from which forest production will be obtained for many years to come. The supply of merchantable timber on this area is estimated to be 312,802 million cu. feet, of which approximately 159,800 million cu. feet are located on that portion of the area at present under lease or private ownership. The utilization in 1954 of 3,661 million cu. feet represents 1.2 p.c. of the accessible productive volume, and

2.3 p.c. of the merchantable volume on the occupied areas (where the utilization is actually taking place). A comparison of these percentages reveals the high rate of cutting occurring on the occupied forests, when compared to the fact that the annual growth is not being used on the remainder of the accessible productive forest. This situation emphasizes the necessity for the orderly management of all our commercial forests if the forest industries are to maintain their dominant position in the development of the natural resources of Canada.

3.—Average Annual Forest Depletion during the Ten Year Period 1944-53 and 1953 and 1954

Item	Usable Wood			Depletion ¹		
	Average 1944-53	1953	1954*	1944-53	1953	1954*
	M cu. ft.	M cu. ft.	M cu. ft.	p.c.	p.c.	p.c.
Products Utilized—						
Logs and Bolts—						
Domestic use.....	1,223,009	1,388,937	1,468,860	36.5	37.5	39.3
Exported.....	11,279	8,939	8,969	0.3	0.3	0.2
Pulpwood—						
Domestic use.....	848,239	988,687	1,043,399	25.4	26.7	27.9
Exported.....	168,197	148,682	151,192	5.0	4.0	4.0
Fuelwood.....	779,269	862,956	884,006	23.3	23.3	23.6
Other products.....	110,651	100,530	104,402	3.3	2.7	2.8
Average Annual Utilization.....	3,140,644	3,498,731	3,660,828	93.8	94.5	97.8
Wastage—						
By forest fires.....	207,165	202,654	81,170	6.2	5.5	2.2
Average Annual Depletion.....	3,347,809	3,701,385	3,741,998	100.0	100.0	100.0

¹ Does not include wastage caused by agencies other than fire, such as insects, diseases, and natural mortality for which no reliable estimates are available.

Section 5.—Forest Administration

Subsection 1.—Administration of Federal and Provincial Timberlands*

The major portion of the forest resources of Canada are owned and administered by the provincial governments. The Federal Government is responsible for the administration of those of the Yukon and Northwest Territories and federal lands such as the National Parks and Forest Experiment Stations. About 103,000 sq. miles are owned privately by individuals or corporations.

The general policy of the Federal Government and the provincial governments has been to dispose of the timber under their jurisdiction by means of licences to cut rather than by the outright sale of timberland. Under this system the Crown retains ownership of the land and control of the cutting operations. Revenue is received in the form of Crown dues or stumpage (either in lump sums or in payments made as the timber is cut); ground rents and fire protection taxes are collected annually. All these charges against the timber and land may be adjusted at the discretion of the governments concerned.

The three Maritime Provinces did not adopt this policy to the same extent as did the rest of Canada. In Prince Edward Island practically all the forest land has been alienated and is in small holdings, chiefly farmers' woodlots. In Nova Scotia 73 p.c. of the forest land is privately owned; in New Brunswick 48 p.c. and in the other provinces as follows: Newfoundland (including Labrador) 4 p.c.; Quebec 7 p.c.; Ontario 9 p.c.; Manitoba 7 p.c.; Saskatchewan 6 p.c.; Alberta 7 p.c.; and British Columbia 4 p.c.

Provincial lands suitable for growing trees are set aside for timber production and the policy of disposing of the title to lands fit only for the production of timber has been almost abandoned in every province of Canada.

* More detailed information is given in the 1954 Year Book, pp. 458-465.

Over 2,200 professionally trained foresters are employed in Canada by the Federal Government, by provincial forest services, or by pulp and paper and lumber companies. Those working for the Federal Government are engaged almost entirely in research; those employed by the provincial governments devote their attention mainly to the administration of provincial forest lands; and those in private industry, although they do some research, are concerned chiefly with forest management and protection.

Federal Administration.—The Canada Forestry Act provides, among other things, authority for the operation of forest experiment stations and forest products laboratories, some of which have been in existence for many years. The Act also authorizes the granting of federal assistance to the provinces to enable them to improve the management of their own forests. Under the Federal-Provincial Agreements signed under authority of the Act, seven of Canada's ten provinces have undertaken a forest inventory with federal financial assistance and six provinces have reforestation agreements. The history of the Federal-Provincial Agreements and their relation to the Canada Forestry Act is described in the special article following.

THE FEDERAL-PROVINCIAL FORESTRY AGREEMENTS*

INTRODUCTION

In December 1949 legislation of prime importance to Canadian forestry—the Canada Forestry Act—was placed on the federal statute books. Of equal interest was the announcement in May 1951, by the then Minister of Resources and Development, that the Government of Canada was prepared, under authority of this Act, to enter into agreements with the provinces which would provide for federal financial assistance to them in carrying out certain forestry activities, with a view to promoting sound management of Canada's forest resources.

HISTORICAL REVIEW

During the first thirty years of this century the forest resources of the three Prairie Provinces and the Railway Belt of British Columbia, as well as those of the northern territories and other lands under federal control, were administered by the Government of Canada through various agencies of the Department of the Interior. The Forest Service of that Department was responsible for all timber administration of forest reserves totalling, by the late 1920's, about 35,000 sq. miles, and for fire protection on nearly a quarter of a million square miles. Research was carried out by the Forest Service on a limited scale, although this activity increased after the Commission of Conservation was abolished in 1921. Forest products research was undertaken at laboratories successively established in Montreal, Vancouver and Ottawa. Nevertheless the functions of the Forest Service were mainly of an administrative nature during this period.

In 1930 the forest resources of the western provinces passed from federal to provincial jurisdiction where, under the British North America Act, they rightfully belonged. (Provincial jurisdiction over the forests of the eastern provinces and most of British Columbia had been established at Confederation.) The administrative duties of the Forest Service in this vast area were thus abruptly terminated; it became—and remains to the present day—primarily a research organization. The Dominion Forest Reserves and Parks Act of 1911, which had provided the legislative basis for most of the Forest Service's activities,

* Prepared by H. W. Beall, Chief, Forestry Operations Division, Forestry Branch, Department of Northern Affairs and National Resources, Ottawa.

no longer had any practical application although it remained on the statute books for nearly twenty years. During this period the need for revised federal forest legislation, in keeping with the altered status of the Forest Service, became increasingly apparent.

At the same time there was a growing conviction in many quarters that provision should be made in any new forest legislation for federal financial assistance to provincial governments in the protection and development of their forest resources. Precedents involving such federal assistance to the provinces already existed in other fields of provincial jurisdiction, where national as well as regional or local interests were affected. Clearly the welfare of the forest estate was a matter of major concern from the national standpoint, not only because of the prominent position of the forest industries in the Canadian economy and the large federal revenue derived from them, but because of the far reaching influence of the forests on streamflow, wildlife, recreational values, and the national wellbeing in general.

This principle had been recognized in the United States as early as 1911 by the enactment of the Weeks Law, which included provision for federal financial aid to state governments in forest fire protection. Federal-state co-operation in this field was greatly expanded under the Clarke-McNary Act of 1924, and was extended to other phases of forestry, although on a much more limited scale, in this and subsequent legislation.

Representations for similar legislation were made to the Canadian Government from time to time. Financial aid to provincially administered forestry projects was given in 1939-40 under the National Forestry Program, a youth training scheme which was cut short by the demands of World War II, and an arrangement was made with the Province of British Columbia during World War II for the use of alternative service workers for protecting forests from the threat of incendiary bombs carried by Japanese paper balloons.

In 1943 the Report of the Subcommittee on Conservation and Development of Natural Resources of the Advisory Committee on Reconstruction—commonly known as the "Wallace Report"—was published. Paragraph 4 of the Subcommittee's recommendations relating to forestry proposed that there be enacted a Dominion Forest Act which would provide, among other things, for "the granting of financial assistance to the provinces for forest protection, insect and disease control or eradication, development of recreational facilities, woodlot improvement projects, reforestation, forestry publicity and education, and subsidies to be passed on to industry for approved forestry practices in woodlands management".

Following the cessation of hostilities in World War II, active consideration was given to the preparation of federal forest legislation which would implement, in substantial measure, these recommendations of the Wallace Report. On Oct. 13, 1949 Bill 62, "An Act Respecting Forest Conservation", was introduced as a Government measure in the House of Commons. The Bill met with approval by all parties in Parliament and received Royal Assent as the Canada Forestry Act on Dec. 10, 1949.

THE CANADA FORESTRY ACT

The Canada Forestry Act is entirely permissive in character. It merely *authorizes* the Governor in Council and the Minister of Northern Affairs and National Resources to take certain action.

The principal terms of the Act are briefly as follows:—

- (a) Provision is made for the establishment of and carrying out of necessary activities in National Forests and Forest Experimental Areas, and for making regulations for the protection, care, and management of such areas. Penalties are provided for violation of such regulations.
- (b) The establishment and maintenance of forest products laboratories are provided for.
- (c) The Governor in Council is given authority to assist any province or forest owner in the protection and development of forest lands with a view to the conservation and advantageous utilization of the forest resources of Canada.

- (d) The Minister of Northern Affairs and National Resources is authorized,
- (i) with the consent of the Governor in Council, to enter into agreements with the provinces for the protection, development or utilization of forest resources;
 - (ii) to make arrangements with other federal agencies for carrying out the purposes of the Act; and
 - (iii) to enter into agreements with any persons providing for forest and forest products research, and economic studies relating to forestry.
- (e) Donations and bequests made for the purposes of the Act may be so used; otherwise all expenditures under the Act are to be paid out of moneys appropriated by Parliament for that purpose.

The last-named clause differs from the terms of certain comparable legislation in other fields, such as the Trans-Canada Highway Act, where provision is made for payments to the provinces out of unappropriated moneys in the Consolidated Revenue Fund during a stated period of years and up to a stated maximum. The supply of funds under such "statutory votes" is virtually automatic; however if it should become necessary to exceed the maximum payment stipulated, an amendment to the Act would be required. On the other hand under provisions such as those of the Canada Forestry Act the responsible Minister must seek the necessary appropriation from Parliament each year and must be prepared to justify it item by item; but the procedure is more flexible in that the amount asked for may be determined in the light of current needs.

Apart from the question of financing the clause in the Canada Forestry Act, with which this article is primarily concerned, is Sect. 6, paragraph (a), which reads: "The Minister may with the consent of the Governor in Council enter into agreement with any province, for the protection, development or utilization of forest resources, including protection from fire, insects and diseases, forest inventories, silvicultural research, watershed protection, reforestation, forestry publicity and education, construction of roads and improvement of streams in forest areas, improvement of growing conditions and management of forests for continuous production".

Thus in one short paragraph, provision is made for federal assistance to the provinces embracing virtually every field of forestry activity. In this respect the Canadian law differs markedly from that of the United States, where federal-state co-operation has developed by stages over the years, in fields delimited by successive Acts of Congress.

THE FEDERAL-PROVINCIAL AGREEMENTS

It will be observed that forest protection is the first item mentioned in the list of specific fields of federal-provincial co-operation included in the recommendations of the Wallace Committee and in the Canada Forestry Act itself. Forest fire protection did in fact occupy a prominent place in early planning at the technical level for the implementation of the co-operative clauses of the Canada Forestry Act, and in preliminary discussions regarding the possible form of federal-provincial forestry agreements. However other important fields of forestry activity were also considered. As a preliminary to sustained-yield forest management a reliable appraisal of the location, extent, and nature of the forest resources is necessary. The initiation or acceleration of provincial forest inventory surveys was therefore regarded as a particularly desirable field for federal assistance. Consideration was also given to the provision of financial aid to the provinces in various fields of forest management, notably in the reforestation of lands which, while otherwise favourably situated from the economic standpoint, have failed as a result of logging and fire to restock naturally with usable species.

In the matter of forest research and forest products research the Forestry Branch of the Department of Northern Affairs and National Resources is particularly well equipped to conduct investigations of value both to the provinces and to industry, and it was recognized that emphasis in these fields should be placed on the continuation and expansion of such services. Research in forest fire protection is one of the major phases of forest research in which substantial assistance has been and is being given by the Forest Research Division of the Forestry Branch to the forest protection services maintained by the provincial governments and the forest industry.

On May 2, 1951 the Minister of Resources and Development announced in the House of Commons that, with a view to encouraging and assisting the provinces in bringing about the management of their forests on a sustained-yield basis, the Government of Canada was prepared to enter into agreements with the provinces which would provide:

- (1) that the Federal Government would pay one-half the cost to the provinces of completing and maintaining their forest inventories during the next five years, and
- (2) that the Federal Government would pay one-fifth of the cost to the provinces of reasonable programs for the reforestation of provincial Crown lands (in other words, the federal share would be equal to one-quarter of the province's share), provided that the federal contribution would not exceed, in any year, the amount by which the combined expenditures for the reforestation of such lands exceeded the province's own expenditures for such purposes during the previous three years. This Section has since been amended to provide for federal payments of \$10 per thousand trees planted and \$1 per acre seeded, provided that the province's share of the reforestation program is maintained at or above the average level of the past three years.

To provide for payment of the federal share of these costs in the fiscal year 1951-52 Parliament was asked to vote a sum of \$800,000 for forest inventory and \$225,000 for reforestation.

The fact that the Government thus undertook to implement Sect. 6(a) of the Canada Forestry Act at this time, in spite of the urgent priority assigned to defence expenditures, is an indication of its concern for the welfare of the forest estate. For the fiscal year 1952-53 the vote for forest inventory was increased to \$1,000,000 while that for reforestation was again set at \$225,000 and for subsequent years has remained the same.

A conference, at which all provinces were represented, was convened in Ottawa by the Minister of Resources and Development on May 9 and 10, 1951 to consider the Federal Government's proposals in detail. A draft form of agreement, providing for federal assistance to the provinces in forest inventory and reforestation, was approved in principle by the conference. Lengthy consultations were necessary in the preparation of the final text, and it was not until the middle of October that the documents were completed. In the meantime however, at the Minister's invitation, a number of the provinces had prepared programs of work in accordance with the intent of the agreements, and had made definite progress in implementing them.

Agreements with New Brunswick, Manitoba, Saskatchewan, Alberta, and British Columbia were executed on Dec. 4, 1951 and with Ontario, Prince Edward Island, and Nova Scotia on Jan. 28, Mar. 7, and June 12, 1952 respectively.

TERMS OF THE AGREEMENTS

Before reviewing the terms of the Federal-Provincial Forestry Agreements in detail it may be of interest to note certain general principles upon which they are based and which, to a considerable degree, are common to other federal-provincial co-operative arrangements in Canada, and to federal-state co-operative measures in forestry in the United States.

- (1) Federal contributions are intended to *supplement* provincial expenditures rather than to replace the normal appropriations made by the provinces.
- (2) The Federal Government shares in the cost of each project carried out under the agreements—that is, no projects are designated as being paid for entirely out of federal funds, and others by the province only.
- (3) The Federal Government claims no proprietary interest in any project carried out under the agreements.
- (4) The actual administration of the projects is the responsibility of the provinces in all cases.
- (5) Adherence to certain general standards and specifications is provided for in the agreements, where necessary in the interests of efficiency, but the Federal Government makes no attempt to set up a rigid, common pattern of procedure, or to discourage the provinces from using existing methods and techniques which have proved satisfactory.

Forest conditions and problems in Prince Edward Island differ materially from those encountered in the other provinces of Canada. In consequence the forestry agreement with that Province is specially designed to assist the Province in the reforestation of waste lands unsuitable for the production of agricultural crops. Under this agreement the Government of Prince Edward Island is proceeding with a program for the reforestation of such lands and the Federal Government is sharing, on an equal basis, the cost of carrying out that program. A maximum federal contribution of \$7,500 was provided for each of the first two years of the five year period covered by the agreement. By the end of the fourth year the program had expanded greatly and the cost was almost doubled.

With the exception of Prince Edward Island the form of the agreements with all provinces is identical. The principal terms of this agreement form are summarized below:—

Duration of Agreement

The agreement applies to projects carried out and to expenditures incurred under it by the Province during the five year period from Apr. 1, 1951 to Mar. 31, 1956, and is subject to renewal thereafter on such terms as may then be decided upon.

Forest Inventory

- (1) The Province undertakes to complete, within five years of the date of the agreement, a forest inventory, including so far as is practicable all forests within its boundaries except those on federal lands, and to furnish summaries of the data so obtained to the Federal Government.
- (2) The Federal Government undertakes to pay half the cost to the Province of preparing and maintaining this inventory during the period covered by the agreement, provided that the inventory conforms to the general standards and specifications attached to the agreement. If these standards are exceeded, an appraisal is to be made to determine the federal share of the cost. Recognition is given to the present status of the inventory and to the methods already in use.
- (3) Inventory projects that may qualify for federal aid include: ground control surveys, air photography, base mapping, interpretation of forest data from photographs, field surveys for forest data, compilation and preparation of forest maps and inventory reports, and certain supervisory operations.
- (4) Two classes of forest inventory surveys are eligible for federal assistance—*reconnaissance surveys*, intended to determine locations of the areas of productive forests, and generally applicable to presently inaccessible regions and to those where the proportion of productive forests is small; and *provincial surveys*, intended to determine the areas of different classes of forest and to provide estimates of timber volumes for large areas, such as are required for purposes of provincial administration and for provincial and national inventory statements. Such surveys are particularly well adapted to the use of air photographs for classifying the forest according to type, height, and density—a process which greatly reduces the amount of ground sampling required. The more intensive *working plan* surveys, which provide detailed estimates of timber volumes and other forest characteristics for relatively small areas, are not included.
- (5) The classes of information to be obtained in federally-supported inventory programs are specified:
 - (a) Areas of productive and non-productive forest are to be determined.
 - (b) Productive forest is to be classified into three main types—softwood, mixed-wood, and hardwood—and is to be further classified as to merchantability and accessibility.
 - (c) Accessible productive forest areas are to be subdivided according to the following classes of tenure—occupied Crown forest, unoccupied Crown forest, and other forest.
 - (d) Estimates of timber volume are to be made for the principal species in the accessible productive forests, separate estimates being given for timber of 10 inches diameter at breast height and larger, and for trees of 4 inches to 9 inches diameter.
 - (e) Provision is to be made for obtaining preliminary data regarding forest growth.
- (6) Estimates of timber volumes are required for large unit areas only, of the order of one-half to one million acres, sampling on the ground being designed to give a probable error of plus or minus 10 per cent for gross volume estimates on such areas. Stratified random sampling is to be employed where possible, but it is recognized that in many cases some form of selective sampling may be necessary.
- (7) For reconnaissance surveys in thinly timbered areas, photography is planned on a scale of 1:40,000 (1 inch=3,333 feet), with base maps on a scale of 1 inch to the mile. Areas warranting more detailed examination are to be photographed at 1:15,840 (1 inch=1,320 feet), and mapped at a suitable scale between 1 inch and 4 inches to the mile. Federal assistance may be extended to share in the cost of reproducing the final forest maps at 1 inch to the mile.

Reforestation

- (1) The Province undertakes to maintain its program for the reforestation of unoccupied provincial Crown lands at a level at least equal to the average of the three preceding years. Such lands may include those owned by a public authority within the province (e.g., a municipality or a conservation authority) if they are under the control of the Province for reforestation purposes.
- (2) The Federal Government undertakes to pay an amount of ten dollars for each unit (1,000 trees) reforested by planting and one dollar for each unit (one acre) reforested by seeding on such lands, provided that the conditions mentioned above are fulfilled. An incentive is thus provided for the expansion of reforestation programs on denuded provincial lands which are not under lease or licence.
- (3) In addition to the above, the Federal Government undertakes to pay one-fifth of the cost to the Province of establishing and operating new nurseries—that is, nurseries not yet in actual production—irrespective of what proportion of the nursery output is to be used for planting on public, licensed, or private lands.

General

- (1) The Province agrees to furnish the Minister of Northern Affairs and National Resources with an over-all plan for the completion of the forest inventory, and to submit annual inventory programs and reports on work carried out under the agreement each year. Similar clauses are included with respect to reforestation.
- (2) The Minister's approval of all projects involving federal payments is required, and provision is made for examination of such projects by his representatives before payment. Sharable cost projects may be carried out either directly by agencies of the provincial government, or by private agencies under contract with the Province. The approval of the Minister is necessary with respect to any contracts relating to work performed under the agreement.
- (3) Expenditures made by the Province, for which the latter is reimbursed by some other person or agency, are not sharable by the Federal Government.
- (4) Matters relating to accounting, auditing, and the submission and payment of claims for reimbursement, are dealt with from federal standpoint by officers of the Comptroller of the Treasury's staff, working in co-operation with the Forestry Branch representatives.

ADMINISTRATION OF THE AGREEMENTS

In order to carry out the duties and responsibilities devolving upon the Forestry Branch of the Department of Northern Affairs and National Resources in connection with the administration of the agreements, a Provincial Agreements Section was established in the Forestry Operations Division of this Branch. Liaison Officers assist the Branch's District Forest Officers in the performance of these administrative duties in the field. A spirit of co-operation and mutual goodwill between provincial and federal officials has prevailed from the outset.

In harmony with this co-operative approach, federal liaison duties are by no means confined to the examination of programs and reports submitted by the provinces or to inspection of projects in the field. Of equal importance are discussions and consultations with provincial officers prior to the preparation of programs, and on the technical details of projects proposed or in progress. It has thus been possible for example to effect substantial savings in some of the forest inventory programs by making sure that full advantage is taken of all existing material, such as air photographs, ground control, and base maps, suitable for the purposes of the inventory. This in turn is made possible by the excellent co-operation received from the Surveys and Mapping Branch and the National Air Photo Library of the Department of Mines and Technical Surveys, the Royal Canadian Air Force, and other federal agencies. On the principle that two heads are better than one it may not be unreasonable to assume that co-operation between federal and provincial departments, both charged with the responsibility for expenditure of public funds, will provide double assurance that such funds are wisely spent.

SCOPE OF WORK UNDERTAKEN

Reforestation.—Planting programs in a number of the provinces have been substantially increased in accordance with five year reforestation plans. In an effort to avoid the high costs and labour shortage problems associated with planting operations and at the same time to speed up reforestation programs, serious attention is being given in some quarters to the possibilities of direct seeding. Thus far however seeding has been carried out on an experimental basis only.

During the first year of the agreements, provision was made for federal participation in reforestation programs by four of the provinces—British Columbia, Saskatchewan, Ontario and Prince Edward Island—and in subsequent years with Manitoba and Nova Scotia. About 48,000,000 trees were planted on nearly 50,000 acres, 6,500 acres were seeded, and four new nurseries were established in the first four years of the agreements. The Federal Government's share of the cost amounted to \$547,802.

REFORESTATION UNDER THE FORESTRY AGREEMENTS TO MAR. 31, 1955

Province	Trees Planted		Area Planted		Area Seeded	
	Year Ended Mar. 31, 1955	Total to Mar. 31, 1955	Year Ended Mar. 31, 1955	Total to Mar. 31, 1955	Year Ended Mar. 31, 1955	Total to Mar. 31, 1955
	No.	No.	acres	acres	acres	acres
PRINCE EDWARD ISLAND.....	30,000	78,000	30	68	—	—
NOVA SCOTIA.....	99,000	158,000	89	148	—	—
ONTARIO.....	10,357,000	33,025,000	10,357	33,025	—	6,000
MANITOBA.....	700,000	1,992,000	635	1,728	—	—
SASKATCHEWAN.....	129,000	695,000	114	542	164	521
BRITISH COLUMBIA.....	6,204,000	11,949,000	8,070	14,160	—	—
TOTALS.....	17,519,000	47,897,000	19,295	49,671	164	6,521

Forest Inventory.—The five year programs of the seven provinces with which inventory agreements have been signed provide, in the aggregate, for inventory surveys covering a gross area somewhat in excess of 1,000,000 sq. miles, including work carried out prior to the execution of the agreements and inventory data supplied to the provincial governments by the forest industry. In some provinces all operations required in connection with the provincial inventory survey, including any necessary ground control, base mapping, and photography, are undertaken by provincial government departments. In most cases however some or all of the inventory operations are being carried out under contract by private agencies. The forest services of most provinces whose inventory surveys are being made under federal-provincial agreements are undertaking the actual forestry work—that is, interpretation of photographs for forest data, field sampling, and preparation of forest maps and inventory reports.

A summary of progress toward the completion of these inventories up to Mar. 31, 1955 is given in the following table. Some of the figures listed are preliminary and are subject to later correction.

PROGRESS IN FOREST INVENTORIES UNDER THE FEDERAL-PROVINCIAL
AGREEMENTS TO MAR. 31, 1955

Project Class	Estimated Area to be Covered	Approximate Area Covered			
		Prior to Fed.-Prov. Agreements	Under Fed.-Prov. Agreements		Total to Date
			Prior to 1954-55	Fiscal Year 1954-55	
	sq. mi.	sq. mi.	sq. mi.	sq. mi.	sq. mi.
GROUND CONTROL SURVEYS.....	397,000	107,000	198,000	86,000	391,000
AIR PHOTOGRAPHY.....	1,207,000	461,000	504,000	105,000	1,070,000
Small scale.....	742,000	246,000	325,000	74,000	645,000
Medium scale.....	465,000	215,000	179,000	31,000	425,000
BASE MAPS.....	1,037,000	289,000	451,000	156,000	896,000
Small scale.....	682,000	74,000	376,000	130,000	580,000
Large scale.....	355,000	215,000	75,000	26,000	316,000
FIELD SURVEYS FOR FOREST DATA.....	952,000	157,000	366,000	127,000	650,000
INTERPRETATION OF PHOTOGRAPHS.....	1,097,000	162,000	449,000	124,000	735,000
FOREST MAPS.....	1,037,000	84,000	347,000	74,000	505,000
INVENTORY REPORTS.....	1,037,000	53,000	443,000	69,000	565,000

This program, which relates only to those provinces with which federal-provincial agreements have been concluded, obviously represents a surveying task of considerable magnitude. During the first four years of operation under the agreements the total federal share of the cost of forest inventories was \$3,630,223. This sum, together with the federal portion of reforestation expenditures, resulted in combined payments by the Federal Government to the provinces of \$4,178,025 under the forestry agreements since their inception.

Recent Advances in Forest Management Programs.—During recent years an increasing interest has been shown by governments and industry alike in programs to stimulate production of forest products and at the same time perpetuate the forest resources of Canada. Most of the provinces require timber operators on Crown lands to submit forest inventories of their cutting areas and to prepare management plans covering operations for a stated period of time.

In 1955 the Province of New Brunswick set up a Forest Development Commission to study and report on the state of the forest resources of the Province and their protection, utilization, management, and development for all purposes.

The Provinces of Nova Scotia and Ontario have each appointed an Advisory Committee composed of representatives of the provincial government, the forest industries and other organizations interested in the welfare of the forests, so that forest problems can be discussed and a concerted effort made to solve them for the benefit of all. Efforts are being made, especially in Quebec and Ontario, to encourage the establishment and maintenance of forests on a community basis.

Saskatchewan has taken an effective step towards conservation of its forest resources by curtailing the annual cut to an amount approximating 5 p.c. of the estimated stand of merchantable spruce saw-timber in each particular district.

In British Columbia, under authority of an amendment in 1947 to the British Columbia Forest Act, forest management licences provide a form of long term forest tenure aimed at stabilizing the forest industry and insuring adequate and continuous timber supplies for the future. In addition to the management licences the Public Working Circle System is provided to supply the needs of the small operator, and differs from the management licence in that the government manages the area although the logging is done by the

operator. The timber is sold by auction in the same manner as the regular timber sales. Access roads are built by the government. In 1955 a Royal Commission was set up by the British Columbia Government to study the results obtained by the forest management licence system and to report on the forest resources generally of the Province.

The use of air photographs for forestry purposes is a comparatively new field in which progress has been made both in research and in practice (*see* p. 472). By the use of such photographs the Forestry Branch of the Department of Northern Affairs and National Resources has been continuing work on the aerial forest mapping of federally administered lands and other territories. Forest inventory maps for example were prepared from air photographs for portions of the Yukon and Northwest Territories and data were collected on the ground to support the interpretation of the photographs. The development of instrumental aids in forest photography and in interpretation is being continued.

Timber Control.—The formal control of timber by the Timber Controller, as established during the war years, ceased on Mar. 31, 1950. Since that date the only controls have been those exercised through licences for the export of logs and pulpwood, required under the authority of the Export and Import Permits Act.

Subsection 2.—Forest Fire Protection

The Federal Government is responsible for fire protection in the forests under its administration—chiefly those of Yukon Territory and the Northwest Territories, the National Parks, Indian lands, military reserves and Forest Experiment Stations. Each of the provincial governments, except that of Prince Edward Island, maintains a fire protection organization co-operating with owners and licensees for the protection of timbered areas, the cost being distributed or covered by special taxes on timberlands.

In each province except Prince Edward Island provincial legislation regulates the use of fire for clearing and other legitimate purposes and provides for the closing of forests to travel or work during dangerous periods. The Province of Quebec has organized a number of co-operative protective associations among lessees of timber limits. These associations have their own staffs, which co-operate with those of the Board of Transport Commissioners and the provincial government. The latter contributes towards fire suppression costs and also pays for the protection of vacant Crown lands lying within the area of the associations' activities. In the Province of Newfoundland responsibility for the protection of most licensed timberlands is vested in the lessees. The Newfoundland Forest Protection Association, maintained jointly by the provincial government and industry, carries out certain important fire control functions.

The provincial services of forest fire protection along railway lines are assisted by the Railway Act, administered by the Board of Transport Commissioners which has wide powers relating to fire protection along railway lines under its jurisdiction. Certain officers of the various forest authorities are appointed *ex officio* officers of the Board of Transport Commissioners and co-operate with the fire ranger staffs which, under the Railway Act, the railway companies are required to employ.

In many districts in Canada radio equipped aircraft are used to good effect for the detection and suppression of forest fires. Where lakes are numerous seaplanes or flying boats can be used for fire detection and for transportation of fire fighters and their equipment to fires in remote areas especially. In Ontario water bombing of small fires is regularly practised and in some districts helicopters are being used in fire suppression work. Equipment and supplies are sometimes dropped by parachute to isolated fire crews and in Saskatchewan parachutists are employed to fight fires that are difficult to reach.

Fire detection in more settled areas is carried out from lookout towers fitted with telephone or radio for reporting and fire fighting crews and equipment are maintained at strategic points. These crews, when not engaged on fire suppression duties, are employed on the construction and maintenance of roads, trails, telephone lines, fire guards and other improvements.

Portable gasoline pumps and linen fire hose are important items of equipment and are carried by canoe, motor boat, automobile, aircraft, pack-saddle or back-pack. The pumps provide hose pressures of up to 250 lb. per sq. inch, depending upon the elevation above and distance from the water supply; hose lines of over a mile in length are frequently used. Small hand pumps supplied by 5 gallon portable containers are also effective. Bulldozers and ploughs are commonly used for fire line construction and trucks fitted with water tanks and power pumps are employed for the control of fires adjacent to roads. Despite the provision of these mechanical aids more than 50 p.c. of all fires are fought with hand tools.

The various government forest authorities conduct forest conservation publicity independently and in co-operation with the Canadian Forestry Association. Since its beginning in 1900 the CFA has played an important part in securing popular co-operation in reducing the fire hazard. By means of its magazine, which has a large circulation, by railway lecture cars and motor trucks provided with motion picture equipment, and by co-operation with radio broadcasting stations and the press, the Association reaches a large proportion of the population of Canada. Efforts are made through the schools, by specially appointed junior forest wardens and other means, to educate the younger generation on the value of the forests and on the seriousness of the devastation caused by fire and the means of preventing such devastation.

Forest Fire Statistics.—During 1954 there were 3,022 forest fires in Canada compared with 6,440 in 1953 and an average of 5,434 for the period 1944-53. This is the smallest number of forest fires since 1929, the year in which the Forestry Branch of the Department of Northern Affairs and National Resources commenced keeping detailed, countrywide, forest fire records.

Probably the best available indicator of forest fire loss is the *area* burned. In 1954 for example only slightly more than a quarter of a million acres were damaged or destroyed; this was about one-sixth the annual average loss during the ten year period ending in 1953, and only 43 p.c. of the next lowest loss in any one year. The small acreage burned in 1954 was directly reflected in the 88-acre average fire for the year as compared with the 292-acre ten year average—the alltime low recorded. The estimated values destroyed in 1954 were only 37 p.c. of the 1953 losses and 40 p.c. of the average annual loss over the previous ten years.

During 1953 Newfoundland had one of the best fire seasons it had experienced for many years, the total area burned being less than 15 p.c. of the average for the preceding four years. In Nova Scotia spring fires accounted for about 70 p.c. of the area burned during the year but the fire season as a whole was considered to be about average. New Brunswick did not have a severe fire season; 1953 however was a bad year for Quebec, with most portions of the Province having some periods of very dry weather; there were more than twice the usual number of fires and the area burned amounted to more than ten times the average for the previous ten years. In Ontario October and the early part of November were exceptionally warm and dry and throughout the whole fire season the general weather pattern was fair and warm. The hazardous fire season in Manitoba commenced in April when the northern regions experienced hot, dry weather which continued until the end of June; another dangerous period developed in late July and August. Rainfall in Saskatchewan was inadequate over the forested areas during April, May and June and 98 p.c. of the losses for the year occurred during that period. Alberta and British Columbia were favoured with light fire losses as there were no prolonged periods of dry weather. The Northwest Territories experienced a severe fire season which ran from April to August, the latter month being particularly warm and dry. The three fires which burned in Yukon Territory during July accounted for more than 80 p.c. of the area lost during the entire year but generally the fire season was not considered hazardous.

During 1954, owing largely to above normal precipitation, Newfoundland enjoyed an excellent season from a fire protection standpoint. In Nova Scotia the number of forest fires in the spring was greater than the average for the previous decade, and about

three-quarters of the area burned was lost during April and May. New Brunswick did not have a serious fire season; the number of fires was half that of the previous year and three-quarters of the ten year average for the Province. This easy fire season was generally experienced westward across Canada. In Ontario heavy precipitation kept fires below normal, the greatest number occurring in July. In Manitoba the number of fires reported was less than half the average for the previous decade and the total area burned was only about one-twentieth the annual average. The season was cool and wet in Saskatchewan and the 57 fires which occurred during the year were less than half the average number for the previous decade. Although over-all fire losses were less than one-third the annual average the whole of 1954 was a fire season in Alberta: fires were reported every month. In British Columbia losses were the lowest since 1913; and the 116 lightning fires reported were about one-quarter the average number recorded annually over the past decade. In the Northwest Territories and the Yukon in general the weather was on the side of the fire fighters. However in the area from Norman Wells to Aklavik the season was dry and fire losses were heavy, especially on the reindeer ranges.

4.—Summary Statistics of Forest Fire Losses 1953 and 1954 compared with Ten Year Average 1944-53

Item	Provinces ¹			Yukon and Northwest Territories, 1954
	Annual Average 1944-53 ²	1953 ³	1954 ⁴	
Totals, Fires No.	5,434	6,440	3,022	112
Fires under 10 acres..... "	4,051	4,981	2,573	49
Fires 10 acres or over..... "	1,383	1,459	449	63
Area Burned acres	1,587,561	1,358,375	265,626	1,131,589
Merchantable timber..... "	298,441	203,112	72,136	7,736
Young growth..... "	401,853	499,144	50,677	93,535
Cut-over lands..... "	226,198	293,874	38,981	3
Non-forested lands..... "	661,069	362,245	103,832	1,030,315
Average size of fire..... acres	292	211	88	10,103
Merchantable Timber Burned—				
Saw timber..... M ft. b.m.	451,243	184,407	46,474	395
Smaller material..... cords	1,185,702	1,423,901	834,055	10,607
Estimated Values Destroyed \$	4,100,243	4,514,430	1,667,685	278,925
Merchantable timber..... \$	1,759,368	2,285,790	1,246,176	20,945
Young growth..... \$	1,045,941	1,017,408	158,232	187,070
Cut-over lands..... \$	204,869	321,883	45,895	3
Other property burned..... \$	1,090,065	889,349	217,382	70,907
Actual costs of fire fighting..... \$	2,133,986	3,679,216	931,231	37,916
Totals, Damage and Fire Fighting Costs .. \$	6,234,229	8,249,313	2,598,916	316,841
Area under protection..... sq. miles	...	1,129,751	1,106,694	124,000

¹ Includes federal lands within provincial boundaries.

² Does not include Newfoundland for which no records were available prior to 1949.

³ Exclusive of 109 forest fires in the Yukon and Northwest Territories.

⁴ Newfoundland included except for cost of fire fighting.

⁵ Figures do not include such values as damage to soil, stream-flow, wildlife, recreation and tourist facilities, or the enhanced values resulting from silviculture and management practices.

5.—Forest Fire Losses by Province 1953 and 1954 compared with Ten Year Average 1944-53

Item	Annual Average 1944-53	1953	1954
Newfoundland—			
Forest fires..... No.	..	44	108
Area burned..... acres	..	555	1,839
Fire fighting cost and damage..... \$	..	966	..
Nova Scotia—			
Forest fires..... No.	274	227	359
Area burned..... acres	13,603	1,795	4,194
Fire fighting cost and damage..... \$	139,862	19,493	51,458
New Brunswick—			
Forest fires..... No.	264	369	187
Area burned..... acres	35,046	5,415	2,002
Fire fighting cost and damage..... \$	380,399	92,053	19,775
Quebec—			
Forest fires..... No.	1,249	2,257	392
Area burned..... acres	226,044	574,482	51,959
Fire fighting cost and damage..... \$	1,293,196	3,794,165	158,545
Ontario—			
Forest fires..... No.	1,361	1,520	881
Area burned..... acres	166,491	58,809	54,693
Fire fighting cost and damage..... \$	1,245,307	1,334,704	960,810
Manitoba—			
Forest fires..... No.	276	228	121
Area burned..... acres	196,418	188,597	5,871
Fire fighting cost and damage..... \$	273,294	235,667	18,665
Saskatchewan—			
Forest fires..... No.	129	168	57
Area burned..... acres	142,533	154,852	3,802
Fire fighting cost and damage..... \$	113,577	154,071	15,410
Alberta—			
Forest fires..... No.	215	123	80
Area burned..... acres	455,043	333,842	128,337
Fire fighting cost and damage..... \$	1,365,213	2,115,265	1,128,538
British Columbia—			
Forest fires..... No.	1,582	1,420	764
Area burned..... acres	329,536	38,645	10,309
Fire fighting cost and damage..... \$	1,377,501	484,756	211,792
Federal Lands—			
Yukon Territory—			
Forest fires..... No.	..	44	55
Area burned..... acres	..	77,557	7,109
Fire fighting cost and damage..... \$	..	97,103	27,627
Northwest Territories—			
Forest fires..... No.	..	65	57
Area burned..... acres	..	2,152,174	1,124,480
Fire fighting cost and damage..... \$	..	1,040,134	289,214
National Parks—			
Forest fires..... No.	33	30	18
Area burned..... acres	4,875	50	151
Fire fighting cost and damage..... \$	9,292	8,157	1,435
Indian Lands—			
Forest fires..... No.	47	46	29
Area burned..... acres	17,870	1,319	2,093
Fire fighting cost and damage..... \$	36,322	9,284	3,962
Forest Experiment Stations—			
Forest fires..... No.	4	8	26
Area burned..... acres	102	14	376
Fire fighting cost and damage..... \$	266	732	1,170

6.—Forest Fires by Cause 1953 and 1954 compared with Ten Year Average 1944-53

Cause	Provinces ¹						Yukon and Northwest Territories 1954	
	Annual Average 1944-53 ²		1953 ³		1954			
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
Camp fires.....	854	16	833	13	580	19	35	31
Smokers.....	1,221	22	1,576	25	515	17	12	11
Settlers.....	592	11	735	11	251	8	—	—
Railways.....	604	11	554	9	329	11	—	—
Lightning.....	964	18	1,467	23	447	15	16	14
Industrial operations.....	252	5	279	4	148	5	5	4
Incendiary.....	146	3	124	2	99	3	—	—
Public works.....	78	1	87	1	53	2	—	—
Miscellaneous known.....	463	8	519	8	451	15	3	3
Unknown.....	260	5	266	4	149	5	41	37
Totals.....	5,434	100	6,440	100	3,022	100	112	100

¹ Includes federal lands within provincial boundaries.
of 109 forest fires in the Yukon and Northwest Territories.

² Excludes Newfoundland.

³ Exclusive

Subsection 3.—Research in Forestry

In the field of forestry the chief responsibility of the Federal Government is to carry out research in problems affecting the forests of Canada and their development, conservation and more effective utilization. To this end forest research and forest products research facilities have been expanded greatly throughout Canada during the past five years. The Federal Government, several provincial governments, the Pulp and Paper Research Institute of Canada, the four universities with faculties of forestry, and a number of the larger industrial companies conduct research in these fields. The Forestry Branch of the Federal Department of Northern Affairs and National Resources conducts research in forest economics, silviculture, management, forest inventory methods, forest fire protection and in forest products. An extensive program of research is under way on the government experiment stations and on other lands, where an increasing proportion of the total effort is being expended in co-operation with provincial authorities and industry.

Forest Research.—Research in silviculture and management has been concentrated upon problems of regeneration, growth and stand development, and harvest cutting methods. A regeneration survey extending from the Rocky Mountains to the Atlantic Coast has provided information on the status of regeneration on cut-over and burned lands. This has been followed by intensive work of a more fundamental nature to assess the factors responsible for the success or failure of regeneration and, by empirical tests of practical cutting methods, seed-bed treatments, and seeding and planting methods, to obtain reproduction. Studies are made of the growth, yield and successional changes in the most important forest types. Systems of classifying forest sites are being devised so as to assess their effective growth, development and long term productivity. Research in tree breeding is being carried on for artificial propagation by selection and development of superior strains. In forest management, research is concerned with the application of silviculture, regulation of cut, and protection so as to maintain forests at the highest production levels. Many of the studies in silviculture and forest management are conducted co-operatively with provincial forest services and wood-using industries.

Forest fire protection in Canada is a vital problem and is therefore a major concern of federal authorities. In forest fire research the Federal Forestry Branch is working towards full co-operation with the provincial forest services in achieving the best methods of forest fire protection. The leading contributions of the Branch have been in the field of fire hazard research and in the development of equipment and techniques for fire fighting. Some of the more important studies being undertaken at present include the development

of fuel-type classification methods and mapping techniques, the development of a method for rating fire season severity and fire protection organization efficiency, and the testing of fire suppression equipment, such as back-pack tanks and forestry hose.

A number of provincial forest protection services are also engaged in research activities and notable advances have been made in several provinces in the development of forest communications equipment, the dropping of supplies to fire fighters by parachute, and the design of mechanical fire fighting equipment.

Research in forest inventory methods is of increasing importance because of the greatly expanded inventory programs being conducted in most provinces. Data from air photographs are correlated with field work to develop new techniques of timber estimating, which is being facilitated by the use of stand volume tables. Various methods of field sampling are being investigated and compared. Research is being continued in methods for measuring tree images and tree shadows to determine heights, crown widths, canopy density and other data from photographs taken in different seasons of the year under various conditions. The use of large scale photography of sample areas is also being investigated and studies are being made in the identification of species and sub-types. Construction of suitable photogrammetric and other scientific apparatus includes those required by the forestry tricamera method of air photography which has been developed to provide maximum forestry information at minimum cost, and the shadow height calculator, constructed to facilitate the determination of tree heights from shadows in air photographs.

Research in forest economics is concentrated on problems associated with the production of wood in the forest and are concerned with land use, land tenure, taxation, forest legislation and administrative techniques, forest management, forest labour and the valuation of forest lands. Economics research also involves continued study of the broad developments in forest industries.

Forest Biology.—The Division of Forest Biology of the Science Service, Federal Department of Agriculture, undertakes investigations dealing with the biology and control of insects and diseases affecting forest and shade trees. The Zoology Unit maintains ten regional laboratories at strategic points across the country. The Forest Pathology Unit operates six branch laboratories. A laboratory was recently established at Sault Ste. Marie, Ont. for fundamental research on virus, fungi and bacterial diseases of insects.

A special article dealing with Noxious Forest Insects and Their Control appears in the 1947 Year Book, pp. 389-400. A detailed account of the activities in forest pathology in Canada may be found in the 1948-49 Year Book, pp. 416-417.

The Spruce Budworm.—One of the largest and most dramatic chemical control operations ever undertaken against forest insects has been under way since the summer of 1952 against the spruce budworm in New Brunswick. The budworm is a defoliating insect which has seriously threatened the pulpwood forests in the northern half of the Province. By Mar. 31, 1955 a total of 3,600,000 acres had been sprayed from aircraft and 600,000 acres re-sprayed. At one stage in the spraying, studies showed from 87 to 99 p.c. mortality among the budworm larvæ. Plans for 1956 include spraying another 2,000,000 acres of forest using about 70 aircraft, operating from 12 airfields. Cost of the operation is being shared between the Federal Government, the Government of New Brunswick and the forest industries in the areas affected, the Federal Government paying the Provincial Government one-third of the cost of the operation, up to a maximum of \$3,000,000. The original three-year cost-sharing Agreement between the Federal Government and the Government of New Brunswick, ending Mar. 31, 1956, has been extended for a further three years. The Agreement is administered by the Forestry Branch of the federal Department of Northern Affairs and National Resources.

Forest Products Research.—A special article outlining the history of the Forest Products Laboratories of Canada and describing their activities appears in the 1955 Year Book, pp. 455-461.

Section 6.—Forest and Allied Industries

This Section is concerned with the many industries employed in the felling of timber in the forest and its transformation into the numerous utilitarian shapes and forms required in modern living. The basic industries provide the raw material for sawmills, pulp and paper mills and for a wide range of secondary industries that convert the products of the basic industries into more highly manufactured goods such as veneers and plywoods, sash and doors, furniture and a vast range of industries using wood in any form in their processes. These industries, especially the pulp and paper industry and the lumber industry, contribute substantially to the value of the export trade of Canada and thereby provide the exchange necessary to pay for a large share of the imports purchased from other countries, particularly the United States.

Subsection 1.—Woods Operations

In connection with operations in the woods the forests provide not only the raw materials for the sawmills, pulp mills, wood distillation, charcoal, excelsior and other plants, but also the logs, pulpwood and bolts for export in the unmanufactured state, and fuel, poles, railway ties, posts and fence rails, mining timber, piling and other primary products which are finished in the woods ready for use or export. A number of minor forest products help swell the total, such as Christmas trees, maple sugar and syrup, balsam gum, resin, cascara, moss and tanbark.

It has been estimated that operations in the woods during the logging season in 1953 gave employment amounting to 40,794,000 man-days and distributed \$463,000,000 in wages and salaries.

7.—Value of Woods Operations by Product 1948-53

Product	1948	1949	1950	1951	1952	1953
	\$	\$	\$	\$	\$	\$
Logs and bolts.....	215,108,932	207,789,335	253,649,547	316,027,115	304,262,790	308,965,959
Pulpwood.....	284,656,819	270,697,980	285,762,620	381,920,846	396,102,104	370,912,264
Fuelwood.....	49,535,855	48,816,965	49,804,328	50,521,011	61,355,643	53,427,086
Hewn railway ties.....	1,303,596	917,033	495,509	612,583	1,292,636	771,421
Poles.....	13,116,480	11,485,488	19,209,308	13,249,988	16,961,456	15,798,908
Round mining timber.....	10,268,435	10,376,305	3,767,076	6,420,818	19,917,669	8,530,523
Fence posts.....	2,489,286	2,640,576	2,906,249	2,920,922	3,432,675	3,062,977
Wood for distillation.....	497,286	467,997	425,918	466,491	441,443	415,271
Fence rails.....	591,484	644,844	705,106	671,491	758,519	679,151
Miscellaneous products.....	8,726,895	7,575,539	9,008,942	9,713,750	11,126,259	11,643,562
Totals.....	586,295,068	561,412,062	625,734,603	782,525,015	815,651,194	774,207,122

8.—Production and Consumption of Wood Cut in Woods Operations 1944-53, by Product 1952 and 1953

NOTE.—Details by chief products and by province for the years 1926-53 will be found in the DBS Bulletin, *Annual Estimate of Operations in the Woods, 1953*, and earlier issues.

Year and Product	Production			Consumption		
	Quantity Reported or Estimated	Equivalent Volume of Merchantable Wood ¹	Total Value	Quantity Reported or Estimated	Equivalent Volume of Merchantable Wood ¹	Total Value
		M cu. ft.	\$		M cu. ft.	\$
1944.....	...	2,508,046	301,570,823	...	2,332,157	270,730,868
1945.....	...	2,566,058	334,324,901	...	2,375,780	298,992,227
1946.....	...	2,812,718	413,269,314	...	2,585,060	365,537,917
1947.....	...	3,061,086	519,804,128	...	2,854,481	466,722,041
1948.....	...	3,198,179	586,295,068	...	2,937,614	523,668,509
1949.....	...	3,140,137	561,412,062	...	2,954,454	515,324,829
1950.....	...	3,342,399	625,734,603	...	3,168,238	580,885,734
1951.....	...	3,602,957	782,525,015	...	3,335,705	705,273,301
1952.....	...	3,565,609	815,651,194	...	3,291,960	725,394,291
Logs and bolts..... M ft. b.m.	7,272,019	1,392,947	304,262,790	7,291,744	1,397,039	303,026,856
Pulpwood..... cord	14,102,394	1,198,703	396,102,104	11,640,191	989,416	334,824,403
Fuelwood..... "	10,517,709	841,417	61,355,443	10,501,852	840,148	61,076,352
Hewn railway ties..... No.	713,924	3,570	1,292,636	713,924	3,570	1,292,636
Poles and piling..... "	1,053,243	15,799	16,961,456	807,110	12,107	12,674,011
Round mining timber..... cu. ft.	49,435,386	49,435	19,917,669	11,549,576	11,549	4,556,992
Fence posts..... No.	16,096,074	19,315	3,432,675	14,409,870	17,292	2,966,683
Wood for distillation..... cord	40,027	3,202	441,443	40,027	3,202	441,443
Fence rails..... No.	4,694,624	4,695	758,519	4,694,624	4,695	758,519
Miscellaneous products.....	...	36,526	11,126,259	...	12,942	3,776,396
1953.....	...	3,579,336	774,207,122	...	3,395,988	716,003,642
Logs and bolts..... M ft. b.m.	7,718,938	1,474,287	308,965,959	7,763,500	1,483,254	309,376,360
Pulpwood..... cord	13,380,816	1,137,368	370,912,264	11,680,418	992,835	329,087,065
Fuelwood..... "	10,750,591	860,046	53,427,086	10,735,705	858,855	53,208,158
Hewn railway ties..... No.	459,601	2,298	771,421	459,601	2,298	771,421
Poles and piling..... "	993,829	14,906	15,798,908	715,900	10,738	11,544,205
Round mining timber..... cu. ft.	21,333,062	21,333	8,530,523	11,530,677	11,531	4,973,725
Fence posts..... No.	15,920,734	19,104	3,062,977	14,249,306	17,099	2,647,885
Wood for distillation..... cord	40,260	3,221	415,271	40,260	3,221	415,271
Fence rails..... No.	4,666,472	4,666	679,151	4,666,472	4,666	679,151
Miscellaneous products.....	...	42,107	11,643,562	...	11,491	3,300,401

¹ In estimating the annual drain on Canada's forest resources, certain converting factors have been used, each of which represents in cubic feet the quantity of merchantable wood used to produce one unit of the material in question. The factor for logs and bolts for the British Columbia coastal region is 175 and for the rest of Canada 200. Other factors: pulpwood 85, fuelwood 80, hewn railway ties 5, poles and piling 15, fence posts 1.2 and wood for distillation 80.

9.—Equivalent Volume of Solid Wood Cut and Value of Products of Woods Operations by Province 1951-53

Province	Equivalent Volume of Solid Wood			Value of Products		
	1951	1952	1953	1951	1952	1953
	M cu. ft.	M cu. ft.	M cu. ft.	\$	\$	\$
Newfoundland.....	103,953	107,531	105,149	22,084,403	25,186,024	25,946,324
Prince Edward Island...	15,456	17,034	16,127	1,770,190	2,641,036	1,857,834
Nova Scotia.....	138,871	137,980	129,453	25,025,276	27,712,516	23,156,753
New Brunswick.....	273,420	251,058	224,953	64,635,365	63,792,776	49,191,518
Quebec.....	1,208,851	1,158,746	1,180,499	267,682,117	280,423,820	273,921,461
Ontario.....	695,877	709,413	687,192	150,920,968	170,534,331	162,431,635
Manitoba.....	87,198	87,761	81,086	11,551,887	13,472,295	10,920,880
Saskatchewan.....	88,656	86,739	87,668	8,736,785	10,513,606	9,405,844
Alberta.....	158,505	164,008	159,790	16,066,822	17,227,875	15,289,297
British Columbia.....	832,170	845,339	907,419	214,051,202	204,146,915	202,085,576
Totals.....	3,602,957	3,565,609	3,579,336	782,525,015	815,651,194	774,207,122

Subsection 2.—The Lumber Industry

The manufacture of sawn lumber is the second most important industry in Canada depending on the forest for its raw materials.

The total number of sawmills, tie, shingle, lath, veneer, stave, heading and hoop mills and mills for cutting-up and barking or rossing of pulpwood, reports of which were compiled for 1954, was 7,696 as compared with 8,194 in 1953. Mills sawing less than 15,000 ft. b.m. are excluded but account for less than one-half of one per cent of the total lumber production. Employees numbered 57,010 and wages and salaries amounted to \$139,571,531. The logs, bolts and other materials and supplies of the industry were valued at \$301,118,370, the gross value of production was \$572,186,498 and net value \$263,629,457.

Lumber production in Canada reached its maximum in 1953 at 7,305,958,000 ft. b.m. Average values were fairly uniform until 1916 but increased rapidly from 1917 to 1920 to decline gradually during the following years to the lowest level for the entire period in 1932. With the exception of 1938 and 1949 increases took place each year from 1933 to 1951; decreases of 2.8 p.c., 4.7 p.c. and 1.5 p.c. occurred in 1952, 1953, and 1954.

10.—Quantity and Value of Lumber Production and Value of All Sawmill Products by Province 1953 and 1954

Province or Territory	Lumber Production				Value of All Sawmill Products	
	Quantity		Value		1953	1954
	1953	1954	1953	1954		
	M ft. b.m.	M ft. b.m.	\$	\$	\$	\$
Newfoundland.....	48,922	30,716	2,809,172	1,795,559	3,147,960	2,081,838
Prince Edward Island...	10,504	8,827	563,416	468,586	637,918	536,769
Nova Scotia.....	295,868	273,583	17,560,898	16,102,774	19,055,939	17,406,816
New Brunswick.....	335,078	227,365	21,802,348	14,325,913	25,490,363	17,509,665
Quebec.....	1,200,598	1,099,036	82,083,803	73,094,936	96,026,261	86,038,897
Ontario.....	823,721	721,742	63,275,565	55,511,696	79,573,208	69,286,415
Manitoba.....	55,527	44,963	3,491,815	2,705,720	3,920,005	3,163,501
Saskatchewan.....	81,596	85,663	4,604,386	4,641,824	4,908,053	4,865,045
Alberta.....	400,822	366,027	20,991,533	20,250,893	23,781,960	22,793,615
British Columbia.....	4,045,724	4,378,695	276,564,562	293,429,444	323,474,522	347,883,651
Yukon and N.W.T.....	7,598	7,238	638,495	584,660	677,515	620,286
Canada.....	7,305,958	7,243,855	494,385,993	482,912,005	580,693,704	572,186,498

11.—Quantity and Value of Lumber Cut by Kind 1953 and 1954

Kind of Wood	Quantity		Value	
	1953	1954	1953	1954
	M ft. b.m.	M ft. b.m.	\$	\$
Spruce.....	2,401,089	2,204,914	145,939,362	132,345,070
Douglas fir.....	1,971,091	2,124,329	136,503,569	141,867,380
Hemlock.....	834,580	910,006	53,082,862	57,656,130
White pine.....	420,030	406,226	36,394,943	34,729,121
Cedar.....	439,689	479,921	39,105,269	42,151,851
Yellow birch.....	205,949	188,271	17,080,897	15,598,203
Jack pine and lodgepole pine.....	304,115	246,889 ¹	17,647,209	14,704,760 ¹
Maple.....	131,638	90,581	10,993,902	7,514,425
Balsam fir.....	210,089	193,267	12,744,089	11,364,979
Red pine.....	59,904	55,959	4,813,081	4,576,353
Other kinds.....	327,784	343,478	20,080,810	20,403,733
Totals.....	7,305,958	7,243,841	494,385,993	482,912,005

¹ Jack pine only in 1954.

12.—Quantity and Value of Lumber, Shingles and Lath Produced 1944-54

NOTE.—Figures for 1908-43 are given in the corresponding table of previous Year Books, beginning with the 1931 edition.

Year	Lumber Cut		Shingles Cut		Lath Cut	
	Quantity	Value	Quantity	Value	Quantity	Value
	M ft. b.m.	\$	Squares	\$	'000	\$
1944.....	4,512,232	170,351,406	2,697,724	11,411,359	110,639	645,010
1945.....	4,514,160	181,045,952	2,665,432	11,737,224	117,731	752,245
1946.....	5,083,280	230,189,699	2,646,022	14,512,796	134,591	908,564
1947.....	5,877,901	322,048,356	3,107,248	24,449,305	151,151	1,239,824
1948.....	5,908,798	340,850,538	3,078,215	24,470,746	149,646	1,338,534
1949.....	5,915,443	334,789,873	2,825,261	19,568,633	129,895	1,136,208
1950.....	6,553,898	422,480,700	3,191,589	31,807,753	123,118	1,134,741
1951.....	6,948,697	507,650,241	2,982,362	27,977,418	104,872	1,042,196
1952.....	6,807,594	483,195,323	2,424,818	19,269,747	111,595	1,237,227
1953.....	7,305,958	494,385,993	2,610,068	19,897,877	155,595	1,686,581
1954.....	7,243,855	482,912,005	2,710,654	24,039,162	140,655	1,512,400

Lumber Exports.—Exports of planks, boards and square timber are given in Chapter XXII, Foreign Trade.

Subsection 3.—The Pulp and Paper Industry*

The manufacture of pulp and paper has been the leading industry in Canada for many years and the postwar development of the industry has more than kept pace with the vast industrial growth of the nation. Pulp and paper stands first among all industries in value of production, in exports, in total wages paid and in capital invested. It is the largest consumer of electric energy and the largest industrial buyer of goods and services, including transportation, in the land. The industry has a newsprint output about five times that of any other country and provides over 50 p.c. of the world's newsprint needs. Canada is one of the world's greatest woodpulp exporters and stands second only to the United States as a producer of pulp. Thus, this Canadian industry, with 80 p.c. of its output moving abroad, ranks as one of the major industrial enterprises of the world.

There are three classes of mills in the industry. In 1953, 34 of these were making pulp only, 24 were making paper only and 69 were combined pulp and paper mills. In 1954 there were 31 mills making pulp only, 25 making paper only, and 69 were still combined pulp and paper mills.

The industry includes three forms of industrial activity: operations in the woods with pulpwood as a product, the manufacture of pulp and the manufacture of paper. Some of the important pulp companies operate sawmills to utilize the larger timber on their limits to the best advantage, and some lumber manufacturers divert a portion of their spruce and balsam logs to pulp mills. Less than 15 p.c. of the pulpwood cut in Canada is exported in raw or unmanufactured form and a large portion of such exports is cut from private lands.

* A special article on the pulp and paper industry appears in the 1952-53 Year Book, pp. 467-475.

13.—Production, Consumption, Exports and Imports of Pulpwood 1944-54

NOTE.—Figures for earlier years will be found in the corresponding table of previous Year Books.

Year	Apparent Total Production of Pulpwood in Canada			Canadian Pulpwood Used in Canadian Pulp Mills		Canadian Pulpwood Exported Unmanufactured		Imported Pulpwood Used in Canada	
	Quantity ¹	Total Value	Average Value per Cord	Quantity ¹	P.C. of Total Pro- duction	Quantity ¹	P.C. of Total Pro- duction	Quantity ¹	P.C. of Total Con- sump- tion
	cords	\$	\$	cords		cords		cords	
1944.....	8,668,566	124,363,926	14.35	7,169,430	82.7	1,499,136	17.3	8,209	0.1
1945.....	9,145,673	146,172,701	15.98	7,474,375	81.7	1,671,298	18.3	4,133	--
1946.....	10,523,256	183,085,359	17.40	8,667,875	82.4	1,855,381	17.6	16,881	0.2
1947.....	11,484,522	237,488,741	20.68	9,500,542	82.7	1,983,980	17.3	50,508	0.5
1948.....	12,497,926	284,656,819	22.78	10,180,580	81.5	2,317,346	18.5	75,969	0.7
1949 ²	11,850,254	270,697,980	22.84	10,237,976	86.4	1,612,278	13.6	5,491	--
1950.....	12,873,476	285,762,620	22.20	11,138,578	86.5	1,734,898	13.5	28,220	0.3
1951.....	15,053,910	381,920,846	25.37	12,182,737	80.9	2,871,173	19.1	46,634	0.4
1952.....	14,102,394	396,102,104	28.09	11,609,131	82.3	2,493,263	17.7	31,060	0.3
1953.....	13,380,816	370,912,264	27.72	11,631,613	86.9	1,749,203	13.1	48,805	0.4
1954.....	14,254,332	373,096,937	26.17	12,475,600	87.5	1,778,732	12.5	105,030	0.8

¹ Given in terms of rough or unpeeled wood.² Newfoundland included from 1949.

Pulp Production.—The manufacture of pulp, the second stage in this industry, is carried on by mills producing pulp only and also by paper manufacturers operating pulp mills in conjunction with paper mills to provide their own raw material. Such mills usually manufacture a surplus of pulp for sale in Canada or for export. Spruce, supplemented by balsam fir in the east and by hemlock in the west, is the most suitable species of wood for the production of all but the best classes of paper.

The preliminary preparation of pulpwood is frequently carried on at the pulp mill, but there are also a number of 'cutting-up' and 'rossing' mills operating on an independent basis, chiefly for the purpose of saving freight on material cut at a distance from the mill or on material intended for export. Pulpwood is measured by the cord (4' by 4' by 8' of piled material). One cord of rough pulpwood contains approximately 85 cu. feet of solid wood and one cord of peeled pulpwood 95 cu. feet.

Of the total 1953 pulp production 74.3 p.c. was made in combined pulp and paper mills by companies manufacturing paper. The remainder was made for sale in Canada or for export. Over 56 p.c. was groundwood pulp and 17 p.c. unbleached sulphite fibre, these being the principal components of newsprint paper. Bleached sulphite, bleached, semi-bleached and unbleached sulphate, soda fibre, semi-chemical, other grades and groundwood and chemical screenings made up the remainder. A considerable market has developed for screenings in connection with the manufacture of rigid insulating boards.

The manufacture of the 9,077,063 tons of pulp produced in 1953 entailed the use of 11,680,418 cords of rough pulpwood valued at \$329,087,065 and the equivalent of 440,040 rough cords of other wood (i.e., sawmill chips, slabs and edgings, sawdust, butt cores, etc.) valued at \$9,476,414. The total value of materials used in the manufacture of pulp was \$388,247,735.

The 1954 figures show that pulp production included 55 p.c. groundwood pulp and 17 p.c. unbleached sulphite fibre of the total of 9,673,016 tons manufactured. This total was secured from 12,580,630 cords of rough pulpwood valued at \$332,853,603 and the equivalent of 694,880 rough cords of other wood such as sawmill chips, slabs and edgings, etc., valued at \$11,774,974. Total value of materials used amounted to \$400,232,857. In 1954, as in 1953, nearly three-quarters (72.9 p.c.) of the pulp was produced in combined pulp and paper mills by companies manufacturing paper.

14.—Pulp Production, Mechanical and Chemical, 1944-54

NOTE.—Figures for earlier years will be found in the corresponding table of previous Year Books.

Year	Mechanical Pulp		Chemical Fibre		Total Production ¹	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	\$
1944.....	3,076,296	71,668,673	2,109,169	138,140,452	5,271,137	211,041,412
1945.....	3,341,920	86,375,001	2,154,267	144,084,969	5,600,814	231,873,122
1946.....	3,997,848	111,514,231	2,427,087	172,756,674	6,615,410	287,624,227
1947.....	4,275,269	147,423,552	2,755,977	251,273,372	7,253,671	403,853,235
1948.....	4,413,513	168,343,496	2,997,281	310,338,614	7,675,079	485,966,164
1949 ²	4,718,806	166,591,741	2,891,418	272,355,430	7,852,998	445,138,494
1950.....	4,910,803	173,035,433	3,314,250	323,330,963	8,473,014	502,583,925
1951.....	5,172,465	213,953,064	3,814,086	503,997,803	9,314,849	727,880,005
1952.....	5,175,319	217,352,245	3,518,127	423,789,033	8,968,009	650,021,180
1953.....	5,122,597	209,899,639	3,663,289	406,114,975	9,077,063	624,865,504
1954.....	5,337,610	214,102,066	4,335,406	441,814,672	9,673,016	655,916,738

¹ Includes screenings and unspecified pulps.

² Newfoundland included from 1949.

15.—Pulp Production by the Chief Producing Provinces 1944-54

NOTE.—Figures for earlier years will be found in the corresponding table of previous Year Books.

Year	Quebec		Ontario		Canada ¹	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	\$
1944.....	2,767,081	105,042,991	1,316,365	54,934,993	5,271,137	211,041,412
1945.....	2,887,176	114,197,036	1,468,682	62,596,260	5,600,814	231,873,122
1946.....	3,460,853	140,930,891	1,837,975	84,049,038	6,615,410	287,624,227
1947.....	3,751,579	194,805,327	2,100,237	122,382,058	7,253,671	403,853,235
1948.....	3,902,072	227,425,545	2,226,124	153,870,832	7,675,079	485,966,164
1949.....	3,698,401	196,568,691	2,138,444	140,662,434	7,852,998 ²	445,138,494 ²
1950.....	3,922,543	216,299,900	2,297,518	156,390,753	8,473,014	502,583,925
1951.....	4,282,568	298,100,313	2,484,551	219,571,231	9,314,849	727,880,005
1952.....	4,192,047	280,314,341	2,308,722	182,773,000	8,968,009	650,021,180
1953.....	4,163,068	265,937,385	2,323,509	177,713,471	9,077,063	624,865,504
1954.....	4,315,465	268,759,418	2,420,903	183,381,040	9,673,016	655,916,738

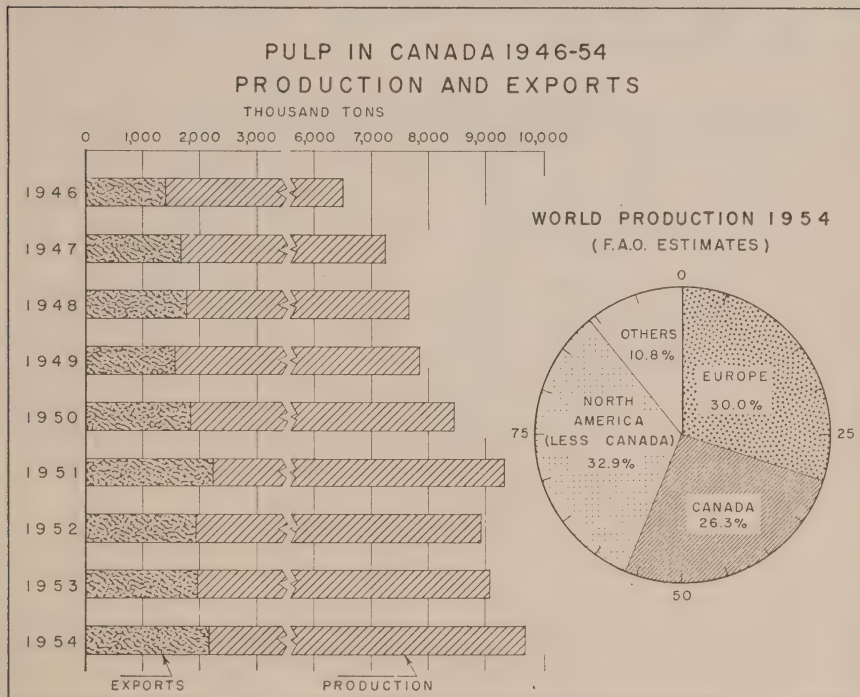
¹ Includes production in British Columbia, Manitoba, New Brunswick and Nova Scotia. included from 1949.

² Newfoundland

Pulp Exports.—The chief market for Canadian newsprint and pulp is the United States. Prior to the War this market alone absorbed about 85 p.c. of the pulp exports and 80 p.c. of the newsprint exports. In 1945 the proportions were 76 p.c. and 83 p.c. respectively and in 1953 and 1954, 77 p.c. and 88 p.c. respectively.

16.—Exports of Pulp to the United Kingdom, United States and All Countries 1944-54

Year	United Kingdom		United States		All Countries	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	\$
1944.....	292,808	21,393,993	1,077,811	77,081,637	1,408,081	101,563,024
1945.....	290,885	22,276,514	1,093,631	79,589,366	1,434,527	106,054,911
1946.....	119,973	10,122,012	1,252,648	99,972,972	1,418,558	114,020,659
1947.....	136,976	14,741,287	1,499,302	156,121,526	1,698,712	177,802,612
1948.....	170,596	21,369,417	1,590,674	184,972,898	1,797,998	211,564,384
1949 ¹	181,828	20,137,715	1,305,334	141,641,380	1,557,348	171,504,163
1950.....	117,921	13,128,894	1,694,444	191,005,507	1,846,143	208,555,549
1951.....	217,250	37,770,627	1,831,410	276,760,578	2,243,307	365,132,884
1952.....	210,685	35,208,295	1,588,978	225,082,376	1,940,579	291,863,498
1953.....	214,951	28,099,255	1,599,491	202,247,663	1,950,152	248,674,880
1954.....	270,946	34,486,399	1,669,782	206,435,403	2,180,416	271,418,005

¹ Newfoundland included from 1949.

World Pulp Statistics.—Figures of production, exports and imports of pulp for certain countries of the world have again become available after the interruption caused by World War II and are shown for 1953 and 1954 in Table 17. It is estimated that these countries produce approximately three-quarters of the world supply of pulp.

17.—Production, Exports and Imports of Pulp by Leading Countries 1953 and 1954

(Source: United States Pulp Producers Association)

Country	1953			1954		
	Pro- duction	Exports	Imports	Pro- duction	Exports	Imports
	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons
Canada.....	9,077	1,950	43	9,626 ¹	2,180	52
United States.....	17,537	162	2,158	18,348	442	2,051
Finland.....	2,126	1,092	—	2,669	1,270	—
Norway.....	1,281	679	14	1,456	746	29
Sweden.....	3,540	2,388	—	3,997	2,457	—

¹ Slightly lower than DBS figures given in Table 14, p. 478, owing to the exclusion of certain types of pulp by the Association.

Paper Production.—During 1954 there were 94 establishments producing paper and paper board in Canada as compared with 93 in 1953. In addition to newsprint Canadian mills have a highly developed production of fine paper, wrapping paper, tissues, paper board and other cellulose products.

18.—Paper Production by Type 1944-54

NOTE.—Figures for earlier years will be found in the corresponding table of previous Year Books.

Year	Newsprint Paper		Book and Writing Paper		Wrapping Paper	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	\$
1944.....	3,039,783	165,655,165	155,498	23,700,310	156,721	16,699,663
1945.....	3,324,033	189,023,736	162,198	24,468,409	162,175	17,558,552
1946.....	4,162,158	280,809,610	189,318	29,995,156	175,369	20,797,070
1947.....	4,474,264	355,540,669	210,762	39,727,187	188,742	26,009,996
1948.....	4,640,336	402,099,718	231,608	45,178,968	207,128	31,036,805
1949 ¹	5,187,206	467,976,343	199,317	40,598,820	195,585	30,033,478
1950.....	5,318,988	506,968,207	214,097	47,356,410	222,840	37,776,291
1951.....	5,561,115	564,361,193	253,081	63,790,259	257,332	49,664,005
1952.....	5,707,030	600,515,960	224,683	57,463,621	222,529	45,356,720
1953.....	5,755,471	633,408,019	246,513	61,451,545	238,111	49,028,911
1954.....	6,000,895	657,487,344	269,353	68,613,807	250,408	51,341,374
	Paper Boards		Tissue and Miscellaneous Paper		Totals	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	\$
1944.....	588,348	39,091,667	104,026	10,399,036	4,044,376	255,545,841
1945.....	595,131	40,100,872	116,039	11,686,045	4,359,576	282,837,614
1946.....	683,643	50,213,833	136,630	15,140,721	5,347,118	396,956,390
1947.....	744,377	66,126,302	156,937	19,697,123	5,775,082	507,101,277
1948.....	817,432	80,864,700	167,142	23,166,651	6,063,646	582,346,842
1949 ¹	797,023	80,632,075	160,833	22,219,122	6,539,969	641,459,838
1950.....	876,894	92,531,711	179,216	25,521,207	6,812,035	710,153,826
1951.....	960,493	113,469,950	193,250	32,744,242	7,225,271	824,029,649
1952.....	874,582	106,066,622	172,976	28,702,185	7,201,800	838,105,108
1953.....	948,955	114,978,277	187,476	28,991,721	7,376,526	887,858,473
1954.....	940,196	117,172,691	188,755	30,975,427	7,649,607	925,590,643

¹ Newfoundland included from 1949.

Quebec produced 48 p.c. of the total paper made in 1954, Ontario over 27 p.c., British Columbia over 8 p.c. and Nova Scotia, New Brunswick, Manitoba and Newfoundland the remaining 16 p.c.

19.—Paper Production by Province 1953 and 1954

Province	1953		1954	
	Quantity	Value	Quantity	Value
	tons	\$	tons	\$
Quebec.....	3,542,987	416,505,144	3,667,794	435,083,677
Ontario.....	2,018,843	263,409,878	2,067,041	271,952,011
British Columbia.....	632,556	74,131,677	683,384	79,499,580
Nova Scotia, New Brunswick, Manitoba and Newfoundland.....	1,182,140	133,811,774	1,231,388	139,055,375
Totals.....	7,376,526	887,858,473	7,649,607	925,590,643

Exports of Newsprint.—Total exports of newsprint from Canada in the years 1944-54 are given in Table 20.

20.—Exports of Newsprint to the United Kingdom, United States and All Countries 1944-54

Year	United Kingdom		United States		All Countries	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	\$
1944.....	41,908	2,557,791	2,408,960	133,398,723	2,805,776	157,190,834
1945.....	105,648	6,564,645	2,533,564	146,507,805	3,058,946	179,450,771
1946.....	82,888	5,954,814	3,323,238	224,782,463	3,858,467	265,864,969
1947.....	55,520	4,623,491	3,675,349	291,892,729	4,220,779	342,293,158
1948.....	60,690	5,319,660	3,917,366	340,334,045	4,328,084	383,122,743
1949 ¹	108,213	9,930,070	4,346,414	395,259,575	4,789,296	440,054,067
1950.....	19,095	1,861,980	4,724,937	463,155,927	4,938,069	485,746,314
1951.....	72,205	7,488,187	4,774,947	496,852,197	5,112,061	536,372,498
1952.....	131,005	14,575,722	4,850,962	534,372,859	5,327,430	591,790,209
1953.....	158,108	18,237,016	4,917,216	564,464,267	5,375,251	619,033,394
1954.....	250,185	28,639,166	4,866,649	558,633,675	5,521,530	635,669,692

¹ Newfoundland included from 1949.

World Newsprint Statistics.—Since 1913 Canada has led the world in the export of newsprint. Figures for the leading producing countries for the two latest years available are given in Table 21; 1939 figures are included for comparative purposes. The six countries listed accounted for 75 p.c. of the estimated world production in 1954, Canada contributing about 50 p.c.

21.—Estimated World Newsprint Production and Exports by Leading Countries 1939, 1953 and 1954

(Source: Newsprint Association of Canada)

Country	Production			Exports		
	1939	1953	1954	1939	1953	1954
	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons
Canada (Including Newfoundland).....	3,175	5,721	5,984	2,935	5,334	5,550
United States.....	939	1,084	1,211	13	47	140
United Kingdom.....	848	675	686	42	139	143
Finland.....	550	484	493	433	437	432
Sweden.....	306	372	373	199	227	213
Norway.....	222	172	174	188	135	131

¹ Slightly lower than DBS figures given in Table 18, p.480, owing to the exclusion, by the Association, of certain paper not classed as newsprint.

Statistics of the Combined Pulp and Paper Industries.*—The manufacture of pulp, the manufacture of paper and the manufacture of products made of paper may under certain conditions be treated as three industries for they are frequently carried on in separate plants by entirely independent companies. The manufacture of basic stock and the converting of this paper into stationery and other highly processed paper products are often combined in one plant. This further converting of paper within the pulp and paper industry itself represents only a small part of Canada's production of converted paper and boards the bulk of which is still made in special converting mills classified in other industrial groups.

The presence of these different combinations in one mill makes it difficult to separate many of the statistics relating to the manufacture of pulp, basic paper and converted paper products. All converting operations carried on in paper mills in this industry are attributed to the particular industrial group of converting plants to which they properly belong. Including manufacturing operations as far as the basic paper making stage there were altogether 125 mills in operation in 1954—two less than in 1953. The employees numbered 60,837 and their salaries and wages amounted to \$252,598,383, as against \$235,741,660 the previous year. If the pulp made for their own use in combined pulp and paper mills is disregarded the total value of materials and supplies used in the industry as a whole can be considered as amounting to \$515,257,595 in 1954, \$499,350,994 in 1953, \$497,046,828 in 1952 and \$483,014,009 in 1951; the gross value of production as \$1,241,558,451 in 1954, \$1,179,665,443 in 1953, \$1,157,887,657 in 1952, and \$1,237,897,470 in 1951; and net value of production \$641,410,070 in 1954, \$599,934,934 in 1953, \$584,101,072 in 1952, and \$679,257,743 in 1951.

The pulp and paper industry is one of the leading single manufacturing industries in Canada. In 1954 as in 1953 it was first in net value of production, in gross value of production and in salaries and wages paid, and rose from second to first place in employment. The manufacturing stages only of the industry are considered in these comparisons, no

* See Chapter XV for further particulars regarding the pulp and paper and paper converting industries.

allowance being made for capital invested, men employed, wages paid or primary products sold in connection with the woods operations. These form an important part of the industry as a whole but cannot be separated from woods operations carried on in connection with sawmills and other industries. In world trade, pulp and paper are generally Canada's main commodities—usually more important than wheat and far more important than nickel. Newsprint alone, over a considerable period, has brought Canada more export dollars than wheat, nickel or any other single commodity.* The United States market absorbs annually over 87 p.c. of all pulpwood exports and over 84 p.c. of the pulp and the paper shipments of Canada. About 50 p.c. of the paper consumed in the United States is either of Canadian manufacture or is made from wood or pulp imported from Canada.

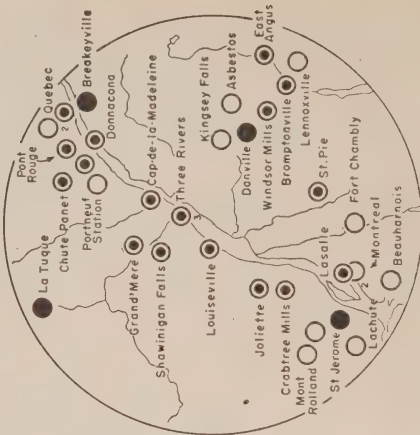
The Map below and those on the following three pages show the distribution of pulp and paper manufacturing in Canada.

* For reasons given in Section 1, Part II of the Foreign Trade Chapter, gold is excluded from Canadian trade statistics.

INDUSTRIAL CONCENTRATION OF PULP AND PAPER MANUFACTURING IN CANADA 1954

PART-I





MANITOBA

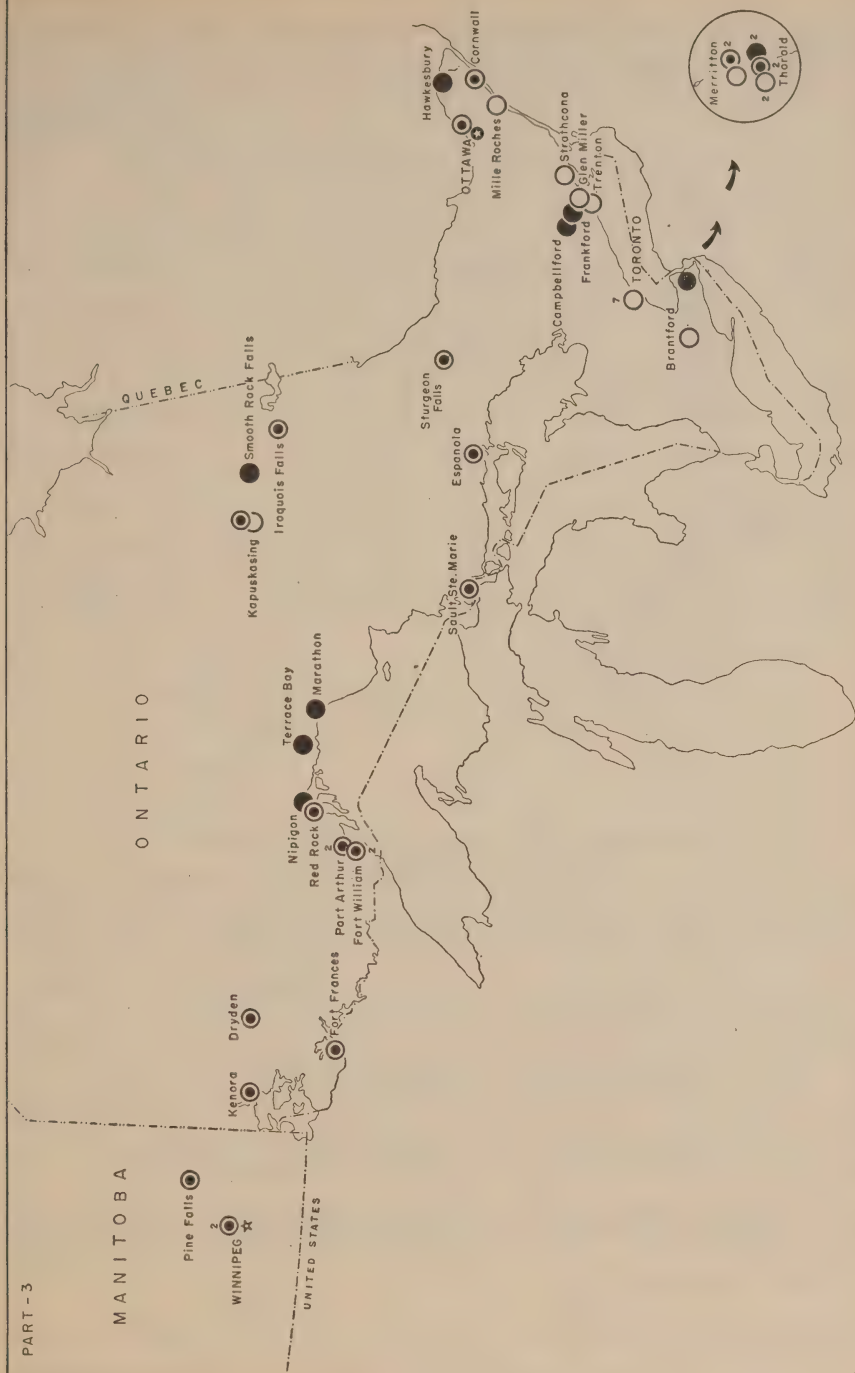
Pine Falls

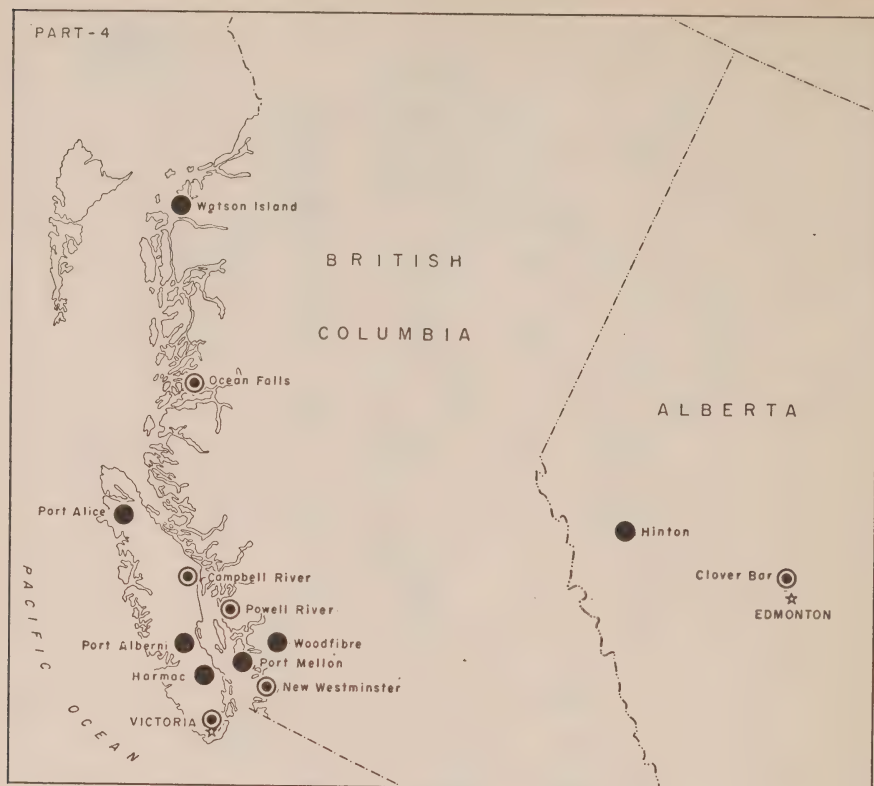
WINNIPEG

ONTARIO

QUEBEC

UNITED STATES





Subsection 4.—The Veneer and Plywood Industries*

The production of hardwood plywood in Canada is confined largely to the eastern provinces. Changes in manufacturing methods applied to hardwood plywood resulted in its adaptation to many uses, particularly to attractive wall finishes for homes and other buildings, flush doors, radio and television cabinets and other home and office furniture.

Softwood plywood is produced almost entirely in British Columbia. Douglas fir is most commonly manufactured because of the availability of large diameter logs of this species from which large sheets of clear veneer can be obtained. The use of synthetic resin adhesives is responsible for this product that has become almost indispensable to the construction industry—for wall panels, concrete forms, roofing, sheeting, house sub-floors; for construction of silos, cribs and caissons; for box-car linings, bus bodies, trailers, power driven and other types of watercraft; for box panels and crate linings, case goods and core-stock for furniture; for plywood-faced doors and for many other uses.

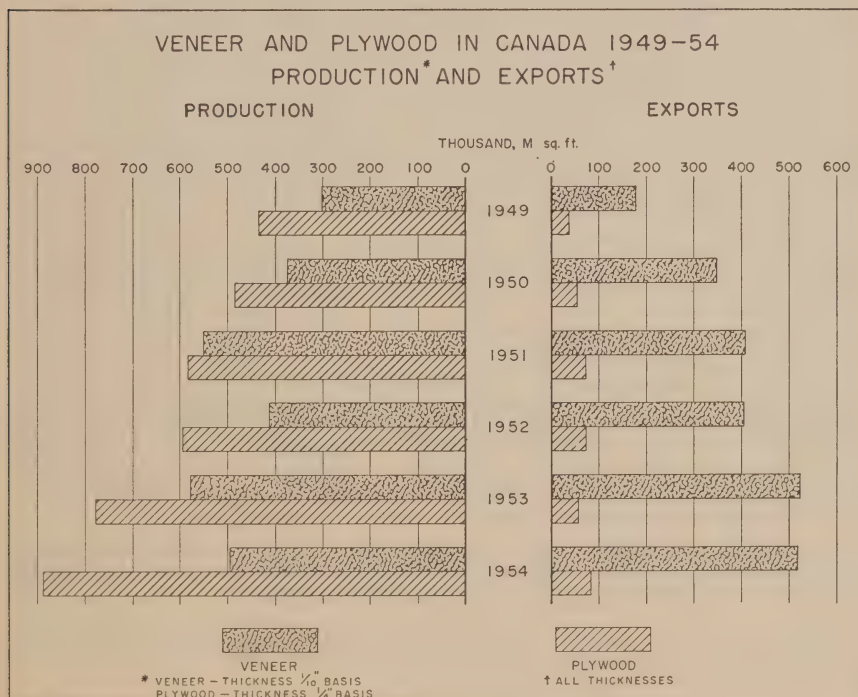
The heating of glued veneers in moulds by high-frequency electric fields (dielectric heating) permits the manufacture of shaped plywood which is now being used for furniture, radio cabinets and similar products. The possibilities of this development are becoming more widely appreciated.

* Prepared by the Forest Products Laboratories, Forestry Branch, Department of Northern Affairs and National Resources, Ottawa.

Veneers of Canadian manufacture are not confined to species native to Canada. A number of imported woods of special decorative value are veneered successfully and provide the furniture industry with a wide choice of finishes. Exports of veneer and plywood produced in Canada have increased in value from \$969,256 in 1938 to a high of \$30,103,676 in 1955.

22.—Veneer and Plywood Produced for Sale by Type 1951-54

Type	1951	1952	1953	1954
Veneer (1/10 inch Basis).....M sq. ft.	551,075	412,751	577,504	495,222
§	12,238,490	11,999,203	17,639,735	14,464,264
Domestic softwood.....M sq. ft.	331,148	185,654	265,222	214,005
§	3,466,307	2,343,415	3,194,222	2,491,706
Domestic hardwood.....M sq. ft.	203,521	217,550	296,986	276,096
§	7,350,044	8,863,025	13,039,291	11,560,934
Imported wood.....M sq. ft.	16,406	9,547	15,296	5,121
§	1,442,139	792,763	1,406,222	411,624
Plywood (1/4 inch Basis).....M sq. ft.	583,483	595,038	779,051	888,499
§	48,650,348	49,909,515	66,256,470	66,971,322
Domestic softwood.....M sq. ft.	482,626	464,417	628,621	724,799
§	34,047,694	32,418,606	44,718,998	45,985,321
Domestic hardwood.....M sq. ft.	95,610	126,007	142,926	151,003
§	13,078,960	16,131,288	19,053,363	18,303,554
Imported wood.....M sq. ft.	5,247	4,614	7,504	12,697
§	1,523,694	1,359,621	2,484,109	2,682,947



Subsection 5.—The Wood-Using Industries

The wood-using group comprises thirteen industries,* other than sawmills and pulp mills, using wood as their principal raw material. Most of these industries obtain from the sawmills the wood they transform into planed and matched lumber, boxes, barrels, furniture, caskets and other manufactured or semi-manufactured products but the veneer and plywood and excelsior industries usually manufacture their products direct from logs and bolts.

This wood-using group does not include every industry into which wood enters as a raw material but only those producing commodities where the chief component is wood. There are a number of industrial groups in which wood is an important raw material as in the manufacture of agricultural implements, musical instruments, etc., and others such as the manufacture of machinery in which wood is necessary but only in comparatively small proportions.

Wood is used indirectly in the manufacture of all-metal products such as wooden patterns and wooden foundry boxes in making metal castings. Wood in the form of barrels, boxes and other containers also enters into the distribution of commodities of all kinds.

In 1953 the wood-using group, comprising 4,268 establishments, gave employment to 73,377 persons and paid out \$183,488,249 in salaries and wages. The gross value of its products was \$661,321,108 and the net value \$308,315,617.

The importance of secondary industry in providing employment will be appreciated when it is noted that the number of employees in the wood-using group was more than 73,000, as compared with sawmills with approximately 61,000 employees and pulp and paper with about 58,000 in 1953.

23.—Wood Used by Wood-Using Industries 1951-53

Item		1951	1952	1953
Sawn lumber.....	M ft. b.m. \$	1,981,239 138,846,528	2,049,314 145,056,681	2,073,065 147,031,589
Sawlogs, veneer logs, flitches.....	M ft. b.m. \$	316,477 26,015,465	312,421 26,100,966	377,420 31,920,920
Veneers and plywoods.....	M sq. ft. \$	267,000 19,314,591	302,971 20,537,175	378,815 26,738,490
Other wood used.....	\$	6,990,639	7,040,180	7,154,664
Totals.....	\$	191,167,223	198,735,002	212,845,663

Subsection 6.—The Paper-Using Industries

The paper-using group comprises three industries† engaged primarily in manufacturing commodities of paper and paperboard. Establishments engaged in printing, publishing, bookbinding and the allied graphic arts also consume large quantities of these materials but under the standard industrial classification adopted by the Dominion Bureau of Statistics in 1948 they are grouped separately.

Some paper-using establishments purchase paper as a raw material from the pulp and paper industry and merely subject it to some form of treatment to fit it for further manufacture in some other industry. This occurs in the manufacture of coated, sensitized

* Furniture; sash, door and planing mills; veneer and plywood; hardwood flooring; boxes, baskets and crates; wood-turning; coffins and caskets; cooperage; woodenware; lasts, trees and wooden shoe findings; beekeepers' and poultrymen's supplies; excelsior; and other wood-using industries.

† Paper boxes and paper bags; miscellaneous paper goods.

or corrugated paper. Other firms purchase paper and subject it to some treatment to fit it for a definite final use such as in the manufacture of asphalt roofing or waxed wrapping paper. Another large group uses paper and paperboard as a raw material for conversion into paper bags, boxes, envelopes, laminated wallboard and other commodities.

The manufacture of containers and packages of various kinds has grown very rapidly since ways have been found of converting tough and cheap paper stocks into strongly made boxes which compete very favourably with the wooden crates and packing cases used formerly. Small attractive paper containers for use in the retail trade are growing in favour with the purchasing public and constitute an important branch of the paper-using industries.

Composition roofing and sheathing, consisting of paper felt saturated with asphalt or tar and in some cases coated with a mineral surfacing, is being increasingly used as a substitute for metal roofing, wooden shingles and siding materials. Wood-fibre building boards, some of which are produced by lamination in the paper-using industries, are now used extensively in construction, especially for insulating purposes, replacing lumber and wood lath.

The growth of the paper-using industries in Canada since 1923 reflects these developments. In 1923 the 152 establishments in this group employed 6,870 persons, distributed \$7,442,102 in salaries and wages and produced goods valued at \$31,760,948. In 1953 these industries comprised 428 plants, provided employment for 26,242 persons whose earnings totalled \$74,366,047 and produced products worth \$388,585,078.

Subsection 7.—Printing, Publishing and Allied Industries

The printing trades group is made up of five closely related industries: printing and publishing, comprised of publishers who operate printing plants; printing and bookbinding, including general or commercial printers and bookbinders; lithographing, comprised of plants specializing in that process; engraving, stereotyping and electrotyping, including photo-engraving; and trade composition or typesetting for printers. A sixth industry covering publishers of periodicals who do not print their own publications has been included since 1949. Although strictly speaking these publishers are not manufacturers they are closely related to the printing trades which produce the plates, cuts, etc., and print newspapers, magazines, directories, yearbooks, almanacs, house organs and other periodicals for them.

In 1953 the manufacturing printing trades employed 61,602 persons whose earnings totalled \$195,727,205. Their output was valued at \$498,082,908 and the raw materials used and services received cost \$152,511,909.

Periodicals valued at \$207,578,676 accounted for 46 p.c. of the value of printed matter and other products, daily newspapers alone contributing \$149,623,043. The value of periodicals is made up of \$150,619,059 received from advertising and \$56,959,617 received from subscriptions and sales of publications. In addition the 1,413 publishers in the sixth industry reported revenues of \$30,204,724 from advertising and \$9,284,958 from sales of publications.

CHAPTER XI.—MINES AND MINERALS

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Section 1.—Canada's Mineral Industry 1954-55*

The great expansion that took place in Canada's mineral industry from the end of World War II to 1951 is reviewed in the 1952-53 Year Book, pp. 476-495. That information has been brought up to the latest possible date in each succeeding issue of the Year Book and is continued in this edition for the period July 1954 to June 1955.

Developments during the latest period extended the evidence of the industry's growth potential. Most noteworthy was the commencement of shipments in midsummer 1954 from the great iron ore deposits in the Quebec-Labrador region, an operation rapidly developing into a major enterprise; expectations are that shipments in 1955 will reach 6,500,000 long tons. Of particular interest and importance too were the operations at the recently discovered uranium deposits in the Blind River area of Ontario which were nearing the production stage by mid-1955. These deposits are probably the largest so far discovered in Canada or elsewhere.

Headway was also made in other fields of mineral activity. Crude oil production continued to mount and at the end of the period was close to 400,000 bbl. a day compared with 296,200 bbl. in July 1954 and 260,000 bbl. in July 1953, the figures for July 1954 being the equivalent of about 51 p.c. of the mid-1955 daily consumption. Production of the base metals was at record levels during most of the period and the world demand for all of them, particularly for copper, was exceptionally strong; in fact the shortage of copper was becoming acute. Gold production was increasing, and towards the end of the period there was considerable improvement in the industry. Production of the principal industrial minerals was also at or near peak levels. The search for mineral deposits was the most active in years, with some of the provinces reporting the establishment of new records in the number of claims staked during the review period. In this search uranium has been receiving chief attention.

* Except where otherwise indicated, this review was prepared under the direction of Dr. G. S. Hume, Acting Deputy Minister of the Department of Mines and Technical Surveys, by G. H. Murray, Chief of the Editorial and Information Division, and Mrs. M. J. Giroux of the Editorial Staff.

The new mines entering production or nearing the production stage during the review period are referred to in detail below but it may be noted here that when fully developed these properties will have an estimated combined annual output of almost half a billion dollars. Production from the Quebec-Labrador deposits alone may eventually reach an annual value of \$200,000,000 to \$300,000,000 and indications are that uranium production will reach a gross annual value of \$100,000,000 within a few years. In addition exploratory work at several mining properties still far from production is disclosing large tonnages of ore and present high metal prices as well as the successful development of new low-cost ore-processing techniques are bringing numerous marginal deposits within economic range.

In contrast to the previous twelve month period when falling base metal prices and other factors made the prospects for the industry somewhat uncertain the outlook was seldom brighter than at the end of June 1955. Most of the industries in Canada and abroad that use metals and minerals in large quantities were operating at or near capacity with prospects of still greater activity. International tension had been eased considerably and earlier views that such a development might adversely affect the industrial outlook were being revised in the light of increasing evidence to the contrary.

One of the brightest features of the outlook however is the success that has been attending the search for new sources of mineral wealth in recent years, the discoveries in the Blind River and Manitouwadge areas of Ontario, in the New Quebec-Labrador region and in the Bathurst area of New Brunswick being excellent illustrations. It is significant that much of this wealth was found in areas that had already been prospected extensively. Coupled with the fact that most of the Canadian north has received only limited prospecting attention, this seems to assure a continuation of mineral discoveries for years to come.

Subsection 1.—The Metals

Several events of great significance to the metal mining industry highlighted the 1954-55 period, each of which will make a marked contribution to Canada's production of metals. In Quebec initial shipments of rich hematite iron ore from New Quebec-Labrador rolled into Seven Islands on the newly completed 360 mile Quebec and North Shore Railway from Iron Ore Company of Canada deposits at Schefferville (Knob Lake). In the western part of the Province the Chibougamau area's second copper-gold producer, Campbell Chibougamau Mines Limited, came into production in June 1955 at close to its rated capacity of 1,750 tons and, in the southern part of the Province, Gaspé Copper Mines Limited attained its first output of copper though at a rate far below initial capacity expectations because of lack of sufficient power. In British Columbia the first aluminum ingot was poured in August 1954 at the new Kitimat project of Aluminum Company of Canada Limited, the eventual completion of which will mean the doubling of Canada's annual output of aluminum (from imported ore) to 1,000,000 metric tons. In northern Manitoba Canada's second nickel producer, the Lynn Lake property of Sheritt Gordon Mines Limited, more than measured up to output expectations during its first full year of operation.

New disclosures of Canada's great mineral wealth were made in various parts of the country leading to the setting under way of additional large development projects. Uranium held the spotlight throughout the review period as a result of developments in the Beaverlodge area and the revelation that huge tonnages of low grade uranium ore exist in the Blind River area of northern Ontario. Large new sources of base metal wealth were discovered near the Bathurst find in New Brunswick and in the Northwest Territories exploratory and development activity disclosed extensive tonnages of good-grade lead-zinc ore over a mineralized belt 36 miles in length at Pine Point on the south shore of Great Slave Lake.

The expansionary trend in the industry is seen in the marked increase in the volume and value of metal production in 1954. Metals rose 13 p.c. in value over 1953 to \$799,916,000. Copper and nickel recorded the greatest gains, copper of \$24,759,000 to \$175,713,000 and nickel of \$19,743,000 to \$180,173,000. Lead increased \$8,174,000 in value to \$58,251,000 and gold \$9,167,000 to \$148,765,000. Zinc declined \$5,894,000 to \$90,207,000. In volume of output, copper rose 20 p.c. over 1953 to 302,732 tons, lead 13 p.c. to 218,495 tons, iron ore 13 p.c. to 7,362,000 tons, nickel 12 p.c. and silver 10 p.c. to 161,279 tons and 31,118,000 oz. t., respectively, and gold 8 p.c. to 4,336,000 oz. t. Zinc declined from 401,762 tons in 1953 to 376,491 tons in 1954.

Exports of the four principal non-ferrous base metals in all forms continued to go mainly to the United States and were valued at \$416,258,000, an increase of \$33,451,000 over 1953. Exports of refined copper increased from 132,000 tons in 1953 to 156,000 tons in 1954; of refined nickel from 80,000 tons to 91,000 tons; of refined lead from 103,000 tons to 117,000 tons; and of refined zinc from 158,000 tons to 206,000 tons. The United Kingdom purchased 51 p.c. more copper than in 1953, 9 p.c. more lead and 87 p.c. more refined zinc. The United States bought 14 p.c. more nickel and 20 p.c. more lead but 19 p.c. less copper and 3 p.c. less zinc.

Base metal prices improved markedly during the review period. Lead rose from 13.25 cents in July 1954 to 14.25 cents at the end of the year and remained steady throughout the rest of the period. Zinc increased from 11 cents to 12.85 cents at the end of 1954 and closed the period at 12.50 cents. Copper remained fairly steady at just over 29 cents during the latter half of 1954. However a growing shortage of the metal brought about by increased consumption combined with a greatly reduced production as a result of mine and smelter strikes led to a number of price increases during the first six months of 1955 and copper closed the period at 35.375 cents. Nickel was 57 cents until mid-November 1954 when it was increased to 64.50 cents.

Accounts of developments in metal mining on a regional basis follow:—

British Columbia.—British Columbia, the home of the famous Sullivan mine which is the largest lead-zinc-silver mine in the world, is Canada's largest producer of lead and zinc. These two metals account for two-thirds of the total value of the Province's metal output: copper, silver, gold, tungsten concentrates and iron ore in order of value, with minor amounts of cadmium, bismuth, antimony and tin, make up the remaining metal production. British Columbia ranks fourth among the provinces and territories in value of mineral production and is the only Canadian source of tungsten, antimony and tin.

Two factors have tended to slow down metal mining development in the Province: the relative inaccessibility of mountainous areas for exploration and development and the lack of sufficient hydro-electric power. The Geological Survey of Canada in its field work during 1953 and 1954 made some progress in assessing the mineral potential of mountainous areas by initiating the use of the helicopter for reconnaissance. The Coquitlam area immediately northeast of Vancouver was mapped on a scale of 1 inch to 4 miles, about five seasons' work in one—at half the cost of the slower ground methods, despite exceptionally unfavourable weather.

The importance of available low cost hydro power has been amply demonstrated by The Consolidated Mining and Smelting Company of Canada Limited which over the years has provided the power necessary to support the growth of its great enterprise and which only recently completed a \$35,000,000 plant on the Pend d'Oreille River, 12 miles south of Trail, to furnish the additional hydro power needed to carry out the extensive expansion and modernization of its productive facilities.

The Province's wealth of power resources has attracted to it a great new aluminum industry which will eventually make British Columbia a world source of aluminum (from imported ore). The Aluminum Company of Canada, Limited completed the first stage—involving the installation of 450,000 h.p. generating capacity—of its \$550,000,000 Kitimat-

Kemano project and at the end of the review period was engaged in a \$45,000,000 expansion program to add 60,000 metric tons of aluminum ingots a year to the initial capacity of 91,500 metric tons. Ultimate hydro power capacity of the project is 2,240,000 h.p. which will support an output of 500,000 metric tons of aluminum a year. A still greater project, and one that will prove a great boon to the Province's mineral industry in general, is being planned by Frobisher Limited and Ventures Limited. It involves the utilization of water power resources in northern British Columbia and Yukon Territory for the development of 4,500,000 h.p. for the large scale treatment of ores from Canadian and world sources.

Under the impetus of improved base metal prices, the tempo of metal mining activity quickened in the Province during the review period, lifting the industry from the doldrums into which it had been forced by low metal prices in 1953 and early 1954. Probably the event of greatest significance to the industry was the decision of the United States Government to stockpile more lead and zinc rather than create tariffs on these metals. The total value of metal production in 1954 was \$799,916,306, an increase of 12.8 p.c. over 1953.

In 1954 British Columbia accounted for 79 p.c. of Canada's production of lead and 40 p.c. of its zinc. Lead production increased from 148,817 tons valued at \$38,472,000 in 1953 to 171,768 tons valued at \$45,793,000 but zinc declined from 191,150 tons valued at \$45,723,000 to 151,538 tons valued at \$36,309,000. Although Consolidated Mining and Smelting Company maintained a 20 p.c. reduction in its output of refined zinc throughout the review period, it raised mill capacity at its Tulsequah mine in northwestern British Columbia from 300 to 500 tons a day and brought its H.B. zinc-lead mine in the Salmo area into production in June 1955. By that date the Company had put the finishing touches to its extensive modernization and expansion program which included an addition to the electrolytic zinc plant and the modernization of the lead smelter, both at Trail. (This Company also produces silver, tin, antimonial lead, bismuth, cadmium, indium, gold, ammonia, sulphuric acid, fertilizers, and other chemical products.) At other properties, Canadian Exploration Limited, a subsidiary of Placer Development Limited, continued to operate its Jersey lead-zinc mine near Salmo at about 1,000 tons a day, 55 p.c. of the mill capacity. Giant Mascot Mines Limited near Spillimacheen enlarged its zinc producing capacity and resumed the production of zinc concentrate which had been discontinued early in 1953. Sheep Creek Gold Mines Limited brought its zinc-lead-silver Mineral King mine in the Lake Windermere district into production in mid-1954.

Little change was noted in the output of copper which in 1954 amounted to 25,088 tons valued at \$14,544,000. Production continued to come from The Granby Consolidated Mining, Smelting and Power Company Limited near Princeton and from Britannia Mining and Smelting Company Limited on Howe Sound. Several copper properties were under development, particularly along the coast, one of these being Granduc Mines Limited 25 miles northwest of Stewart. Reserves of over 15,000,000 tons were indicated at the property a few miles east of the Alaska boundary and various plans for providing access to the copper at a low cost are under study.

The output of tungsten declined in 1953 from 2,396,000 lb., valued at \$5,556,000 to 2,171,000 lb. in 1954, valued at \$5,796,000, because of the closing of the Red Rose mine of Western Tungsten Copper Mines Limited south of Hazelton. Canadian Exploration, the major producer, continued to modernize and expand productive facilities at its property near Salmo.

Japan's dollar shortage and that country's resultant curtailment of imports of Canadian iron ore led to a reduction in the output from the Iron Hill mine of the Argonaut Mining Company Limited and from the properties of Texada Mines Limited on Texada Island. The latter Company maintained its shipments at approximately the same level as in 1953 (332,000 tons) because of a long term overseas contract but Argonaut was forced to suspend operations in 1954 and its output that year was only 164,000 tons compared with 554,000 tons in 1953. New contracts led to a resumption of production and shipments in April 1955.

Gold output was down slightly from 1953 to 256,274 oz. t. valued at \$8,731,000. The four lodé gold producers—Bralorne Mines Limited, Kelowna Mines Hedley Limited, Pioneer Gold Mines of British Columbia Limited and The Cariboo Gold Quartz Mining Company Limited—accounted for 78 p.c. of the total gold output in 1954, the remainder coming from placer and base metal operations.

Most of the output of silver, which increased to 10,826,000 oz. t. valued at \$9,013,000 from 9,309,000 oz. t. valued at \$7,820,000 in 1953, came from base metal operations, the chief source being the Sullivan mine.

The Prairie Provinces.—Until recently metal production in the Prairie Provinces was confined to the Flin Flon mine of Hudson Bay Mining and Smelting Company Limited on the Manitoba-Saskatchewan boundary and to a subsidiary base metal producer and two gold producers, all in Manitoba. With the exception of a minor output of placer gold, Alberta, which lies almost entirely in the Interior Plains region, has no metal production. During the past few years however Manitoba and Saskatchewan have each witnessed the development of great new metal mining industries: in Manitoba, a base metal industry at Lynn Lake in the northern part of the Province and in Saskatchewan a uranium industry in the Beaverlodge area north of Lake Athabasca. The uranium area's first producer, the Ace-Fay mine of the Crown owned Eldorado Mining and Refining Limited, came into production in 1953.

In northern Manitoba production at Sherritt Gordon's Lynn Lake nickel-copper property in 1954, the mine's first full year of production, exceeded expectations and at the end of June 1955 was 1,000,000 lb. a month above the rated annual capacity of 17,000,000 lb. The Company's copper production at an initial rated output of 9,000,000 lb. annually was up proportionately. The extra nickel output was being shipped in the form of concentrates to The International Nickel Company of Canada Limited at Copper Cliff under contract to General Services Administration, a United States Government agency. In addition to recovering nickel and copper the Company's new treatment plant at Fort Saskatchewan in Alberta produces cobalt and fertilizer as a byproduct.

Meanwhile Canadian Nickel Company Limited, a subsidiary of The International Nickel Company of Canada Limited, announced its intentions late in 1954 of sinking a 1,300 foot shaft on the north side of Moak Lake about 40 miles north of Thicket Portage. For some years this Company has been actively exploring the large low grade nickel deposits in the Mystery Lake area north of the Hudson Bay Railway and during the next two years plans to spend \$2,000,000 exploring the deposit underground.

In the Beaverlodge area of northern Saskatchewan Eldorado proceeded to develop, from three shafts, various orebodies along a stretch of four miles of the St. Louis fault east from Beaverlodge Lake. Mill capacity was expanded from 400 tons a day to 700 tons a day, the extra capacity being intended for the handling of custom ore. Activity in the area reached a high level particularly when the extent of the discovery of Gunnar Mines Limited in the St. Mary's channel area became known. Three private companies—Rix-Athabasca Uranium Mines Limited, Nesbitt Labine Uranium Mines Limited, and Consolidated Nicholson Mines Limited—began to ship ore to Eldorado's Beaverlodge plant. Several operators started underground operations and several others carried out extensive exploration of their properties. Over 11,000 claims were staked in 1954 in the area.

Gunnar Mines Limited made marked progress in its preparations for initial production by September 1955 and it expected to achieve the rated capacity of 1,250 tons daily by March 1956. Initial mining will be by open pit. The Company reported that further drilling had increased the gross estimated value of the deposit to \$130,000,000 and that a contract had been arranged with Eldorado, the Crown purchase agency, for the delivery of precipitates to the value of \$76,950,000 by Mar. 31, 1962. A sulphuric acid leaching process will be used. Arrangements have been made to ship the 14,000 tons of sulphur required annually for the treatment of the ore from the gas fields of southern Alberta.

The value of metal output in Saskatchewan increased from \$48,082,000 in 1953 to \$68,216,000 in 1954 and that of Manitoba from \$25,264,000 to \$35,107,000. These increases resulted mainly from a rise in the output of copper by Hudson Bay Mining and Smelting and to new production from Sherritt Gordon. Uranium is not included as data on its production are not released.

Hudson Bay Mining and Smelting Company's production was higher in 1954 than in 1953. Copper was up 5,000 tons to 45,222 tons while the total zinc production and the amount of Special High Grade zinc made were higher than in any previous year; output (all forms) totalling 66,800 tons valued at \$15,952,000. The Company brought its Schist Lake copper-zinc mine, $3\frac{1}{2}$ miles southeast of Flin Flon, into production in August 1954 and in the same month discontinued operations at the Cuprus copper-zinc property, $7\frac{1}{2}$ miles southeast of Flin Flon, where the orebody was mined out. The Company has four new mines in the Flin Flon area under development.

Gold output in Manitoba and Saskatchewan in 1954 was 237,000 oz. t. compared with 220,000 oz. t. in 1953. More than half the output comes from base metal operations, mainly from the Flin Flon mine of Hudson Bay Mining and Smelting. Lode gold production of 114,103 oz. t. came from Nor-Acme Gold Mines Limited in the Snow Lake area and from San Antonio Gold Mines Limited in the Rice Lake area, both in Manitoba. In the latter area, Forty-Four Mines Limited, which is controlled and operated by adjoining San Antonio, began operations early in 1955.

Silver is produced as a byproduct mainly of base metal operations, the Flin Flon mine again being the chief source. Production in both provinces in 1954 amounted to 1,885,000 oz. t. compared with 1,687,000 oz. t. in 1953.

Ontario.—At no time in the history of mining in Ontario has the metal mining industry made such progress as in the period under review. New production records were established: the output of nickel for instance was greater than in 1942, the former peak; marked strides were made in the exploration and development of new properties particularly in the Manitouwadge base metal and Blind River uranium areas and prospecting activity was unparalleled, with a record 50,000 claims staked in 1954. At the end of the period the groundwork had been laid for a large scale uranium industry which promised to make Ontario a leading producer of the metal for years to come and the Province had a greatly expanded base metal production potential.

As Canada's leading metal producer Ontario in 1954 accounted for all of the Canadian output of platinum metals, cobalt and tellurium, 98 p.c. of the nickel, 54 p.c. of the gold, 47 p.c. of the copper, and 33 p.c. of the iron ore. The value of its metal output rose from \$370,596,000 in 1953 to \$395,203,000 in 1954. Nickel showed the greatest increase in volume and value of production, rising 14,317 tons valued at \$16,126,000 over 1953 to 158,009 tons valued at \$176,556,000 in 1954. Copper and gold also showed marked increases in volume and value of output but iron ore, because of a lack of demand, declined from 2,832,000 long tons in 1953 to 2,417,000 long tons.

The demand for nickel for defence and civilian use continued to outstrip supply and the two chief Canadian producers, The International Nickel Company of Canada Limited and Falconbridge Nickel Mines Limited, extended every effort to expand their production facilities in the Sudbury area to meet requirements. Deliveries of nickel in all forms by International Nickel were 141,000 tons, an increase of 15,292 tons over 1953. These deliveries were about 70 p.c. of the free world output. The Company's program of expansion has involved an expenditure of \$150,000,000 during the past decade and included the changeover from open pit and underground mining to almost all underground mining. The cessation of open pit operations is scheduled for 1956. In 1954 the Company mined 14,456,000 tons of ore of which 2,468,000 tons were from open pit operations. Ore production from the underground mines averaged more than 44,000 tons a mine-operating day. During 1954, \$30,000,000 was provided for expansion purposes including \$16,000,000 for the construction of a pyrrhotite plant near Copper Cliff for the recovery of nickel and an iron oxide product from nickel bearing sulphide concentrates.

Falconbridge Nickel Mines continued its \$55,000,000 expansion program designed to increase nickel production to 27,500 tons annually by 1960. The program includes the bringing in of six new mines, three of which—the Hardy in Levack township, the East Falconbridge in Falconbridge township and Mount Nickel in Blezard township—started production during the review period. A new concentrator at the Hardy mine was completed and the expansion of the refinery at Kristiansand in Norway to 22,500 tons of nickel annually was begun. A pilot pyrrhotite treatment plant for the recovery of nickel and a high grade synthetic iron ore, and eventually of sulphur, from low grade pyrrhotite concentrates, was also completed.

Nickel production came from three other properties in the Sudbury area: Nickel Rim Mines Limited in MacLennan township about seven miles north of Falconbridge, which sold the concentrates produced in its 500 ton mill under contract to Falconbridge Nickel Mines; Nickel Offsets Limited in Foy and Bowell townships about 20 miles north of Chelmsford, which also sold the concentrates produced in its 300 ton mill under contract to Falconbridge Nickel Mines; and Milnet Mines Limited in Parkin township about 22 miles northeast of Sudbury at which operations ceased in the latter half of 1954 when available ore was mined out.

The International Nickel Company accounts for 90 p.c. of Ontario's output of copper which in 1954 increased to 140,056 tons valued at \$80,903,000 compared with 130,583 tons valued at \$77,587,000 in 1953. The remaining copper production came from Falconbridge Nickel Mines and from Nickel Rim Mines, Nickel Offset Mines and Milnet Mines.

Developments in the Manitouwadge area of northwestern Ontario point to a substantial increase in the Province's output of copper by the spring of 1957 when Geco Mines Limited plans to bring its copper-zinc property into production at an initial daily rate of 3,300 tons. Over 14,000,000 tons of ore have been indicated in three deposits. A highway has been built into the area from Hemlo on the CPR, and shortly after the end of the period, the CNR completed a 28 mile branch line into the camp from Hillsport on its main line. The CPR is also building a branch line into the camp. Exploration of several other properties in the area disclosed interesting copper and zinc occurrences. Elsewhere, deposits, apparently of considerable extent, were discovered near Tashota on the CNR to the northwest of the Geco property by Teck Exploration Company Limited and on Timagami Lake by Temagami Mining Company Limited.

Ontario is one of Canada's richest sources of iron ore. Development activity at the various properties remained at a high level despite poor demand and indications were that Ontario's production would be in the neighbourhood of 12,000,000 tons annually by 1960. Production during the review period came from Steep Rock Iron Mines Limited and Algoma Ore Properties Limited in northwestern Ontario and, starting in May 1955 in southeastern Ontario, from the Marmora deposit of Marmoraton Mining Company Limited, a subsidiary of Bethlehem Mines Corporation. Most of the Province's output is exported to the United States where it is in demand because of its high grade and good furnace qualities. Most of the ore used in Ontario blast furnaces is imported from that country.

At Steep Rock all production came from the Hogarth open pit and amounted to 1,157,000 long tons compared with 1,301,000 long tons in 1953. Development of the Errington underground No. 1 mine which had been under way since 1950 was completed and the mine was ready for production. It will replace the Errington open pit which had reached the economic depth for open pit mining late in 1953. By June 1955 the Company had started the removal of the 50,000,000 cu. yards of silt covering the 'G' orebody lying between the Errington and Hogarth mines. Caland Ore Company Limited also proceeded to remove the silt from the 'C' orebody which it holds under lease from Steep Rock Iron Mines Limited. Production, which will eventually amount to 3,000,000 long tons annually, is expected to start in 1960.

Output from Algoma Ore Properties came from the Helen and Victoria underground mines in the Michipicoten area and in 1954 totalled 991,870 long tons compared with 1,167,000 long tons in 1953. The ore is sintered at a plant three miles from the mine. The Company continued the ore development program started late in 1953 which will make an estimated 50,000,000 tons of ore available for mining below present levels.

Marmoraton Mining Company completed the removal of 130 feet of limestone capping from its magnetite property about 40 miles east of Peterborough and began the production of a pelletized concentrate containing about 64.3 p.c. iron. Output at the rate of about 500,000 long tons a year is being shipped by train to Picton and then by boat to the parent Company's plant at Lackawanna near Buffalo, New York.

Two new sources of iron were added to the Province's available supplies during the review period. Noranda Mines Limited began the production of high grade iron oxide sinter from pyrite at its new plant at Port Robinson near Welland in southern Ontario. Production is expected to amount to 75,000 tons a year. In northern Ontario International Nickel neared the completion of the first unit of its new \$16,000,000 pyrrhotite plant near Copper Cliff from which the Company will eventually produce 1,000,000 tons of iron oxide annually, containing more than 65 p.c. iron as a byproduct. The Company scheduled shipment of its first iron ore to the steel industry before the end of 1955.

Ontario's output of cobalt comes from the cobalt and silver ores of the Cobalt-Gowganda area in northern Ontario and from the nickel-copper ores of the Sudbury district as a byproduct. Production in 1954 increased to 2,253,000 lb. valued at \$5,913,000 from 1,603,000 lb. valued at \$4,013,000 in 1953. Cobalt ore shipments from the Cobalt-Gowganda area were made mostly to Deloro Smelting and Refining Company Limited, Deloro, Ont.; a much smaller amount went to Cobalt Chemicals Limited at Cobalt. The Canadian Government's premium price plan expired on Mar. 31, 1954 but it was replaced with a similar plan involving the purchase of a limited quantity of cobalt on behalf of the United States Government. During the review period high purity electrolytic cobalt was produced for the first time in the Province at the Port Colborne refinery of The International Nickel Company.

Most of the silver comes from the Cobalt area and the remainder as a byproduct from nickel and gold mines. Output in 1954 declined to 5,444,000 oz. t. valued at \$4,532,000 from 5,155,000 oz. t. valued at \$4,330,000 in 1953.

Gold production in Ontario came from 33 gold mines in the Patricia, Thunder Bay, Porcupine, Kirkland Lake and Larder Lake areas and as a byproduct from the base metal mines in the Sudbury area. In 1954 a number of operations, including the Kerr-Addison mine, Canada's greatest gold producer, reported encouraging results from underground development work. The increase in the gold output came mainly from the Porcupine area, where most of the mines that had been on strike during the latter half of 1953 were reopened early in 1954.

Some lead and zinc production came from Jardun Mines Limited, 18 miles northeast of Sault Ste. Marie in northern Ontario, which began production in May 1955. In the Sudbury area Consolidated Sudbury Basin Mines Limited (formerly Ontario Pyrites Company Limited) continued to explore its Vermillion Lake and Errington mine properties.

The most colourful development of the period was the disclosure of very large tonnages of relatively low grade uranium ore in the Blind River district of northern Ontario and the rapid preparation for production on a large scale by the two major operators in the area, Algom Uranium Mines Limited and Pronto Uranium Mines Limited. The latter Company had reportedly outlined an orebody with a gross value of more than \$70,000,000 and had negotiated a contract with Eldorado Mining and Refining Limited for the sale of precipitates to the value of \$55,000,000 by Mar. 31, 1962. Production was to commence in September 1955 at an initial capacity of 1,000 tons a day.

Algom's two properties, Quirke Lake and Nordie Lake, were reported to have a joint gross value of more than \$300,000,000 and arrangements were made with Eldorado for the sale of concentrates valued at \$206,910,000 also, by Mar. 31, 1962. The Company

plans to bring each property into production at a daily rate of 3,000 tons, the Quirke Lake in mid-1956 and the Nordic by early 1957. Several other properties were under exploration in the Blind River area and preliminary results indicated that other orebodies may be outlined in the territory north of Lake Huron.

Encouraging results were obtained from exploration and development activity on several uranium properties in the Haliburton-Bancroft region in southeastern Ontario. At the end of the period one of these, Bicroft Uranium Mines Limited, formed from the merger of two companies operating in the area, Croft Uranium Mines Limited and Centre Lake Uranium Mines Limited, was negotiating with Eldorado for the sale of its concentrates. The Company planned to start production by September 1956 at a daily rate of 1,000 tons.

Eldorado Mining and Refining Limited installed a new refining process in its Port Hope refinery in southern Ontario to increase the recovery of uranium.

Quebec.—Quebec stands on the threshold of a most promising future in minerals. Metal mining developments in various areas leave little doubt of the Province's tremendous mineral wealth and its potentialities as a producer of iron ore and of the non-ferrous base metals in particular. Large new sources of iron ore as well as base metal prospects have been disclosed in New Quebec; developments in the Gaspé and Chibougamau areas will soon add substantial tonnages of copper to the Province's already large output, and expansion under way at most of the metal mines will be reflected in an increased production for some years to come.

In 1954 Quebec was third among the provinces in value of Canadian mineral production. Its total mining output increased 9 p.c. over 1953 to \$278,818,000 owing to the greater volume and value of metal production which rose from \$103,190,000 to \$126,213,000. Quebec is the second largest producer of copper, gold and zinc and the only producer of molybdenite, which is mined 25 miles north of Val d'Or, and of titanium ore which comes from the large deposits of ilmenite at Allard Lake. Silver, lead, selenium and bismuth make up the remainder of the Province's metal production.

Following the expenditure of over \$250,000,000 and nearly four years of unceasing effort Iron Ore Company of Canada made the first shipments of iron ore from its New Quebec-Labrador properties in June 1954. Approximately 2,119,000 long tons were produced, of which 1,782,000 tons were shipped from the port of Sept Îles to steel mills in the United States and Canada. Ninety per cent of the ore was shipped by tidewater and the remainder by way of the St. Lawrence River. The iron ore transfer terminal at Contrecoeur near Montreal was completed and iron ore shipments by way of the St. Lawrence are expected to total 1,000,000 tons in 1955 and 2,000,000 tons by 1957. The Company expects to produce 6,500,000 tons in 1955 and to arrive at an annual output of 10,000,000 tons within three years and a possible 20,000,000 tons upon the completion of the St. Lawrence Seaway.

Extensive exploration for iron ore was carried out during the review period in the Ungava Bay area and along the Labrador Trough in New Quebec and Labrador. Consolidated Fenimore Iron Mines Limited, Cyrus Eaton interests and Oceanic Iron Ore of Canada Limited are exploring concessions in the Ungava Bay area which contain large tonnages of iron bearing material of possible concentrating grade. These Companies are also studying the various problems involved in bringing their properties into production, the chief being of course transportation.

Forty miles northwest of Hull, Steel Company of Canada Limited and Pickands Mather and Company of Cleveland, U.S.A., plan to produce 500,000 tons of high grade iron ore pellets annually from an old iron mine at Bristol, output to start late in 1956.

Most of Quebec's base metal production comes from the western part of the Province, the chief source of output being the Horne mine of Noranda Mines Limited. The high price of copper and production from new properties combined to make copper the Province's leading metal in point of value. Output in 1954 increased to 83,930 tons valued at

\$48,948,000 compared with 54,920 tons valued at \$32,886,000 in 1953. Zinc increased from 100,430 tons valued at \$24,023,000 in 1953 to 107,000 tons valued at \$25,638,000 and lead declined from 9,237 tons valued at \$2,388,000 in 1953 to 7,818 tons valued at \$2,084,000 in 1954.

Noranda Mines treats ore from its Horne mine and custom ores and concentrates from other copper, gold and silver mines. It recovers the copper and precious metals from the anodes at the electrolytic copper refinery of its subsidiary, Canadian Copper Refiners Limited, Montreal East. During the review period, the Company completed its new sulphur-iron plant at Port Robinson, Ont., in which it plans to produce elemental sulphur, sulphur dioxide gas for the preparation of sulphuric acid, and iron oxide sinter from pyrite concentrates shipped from its Horne mine. Plant capacity is about 370 tons of pyrite concentrates daily from which an estimated 240 tons of sinter will be produced daily.

In another project the Company had almost completed preparations for the entry into production of the zinc-pyrite property of West Macdonald Mines Limited. The ore will be treated at the rate of 1,000 tons a day in the mill of Waite Amulet Mines, Limited, which has been redesigned as a two-circuit plant each with a daily capacity of 1,000 tons. Production from the Waite Amulet property will be reduced from 1,400 to 1,000 tons a day.

Production from Noranda's subsidiary, Gaspé Copper Mines Limited on the Gaspé peninsula, was held up pending the arrival of hydro power. Milling was started on auxiliary steam and diesel power in April 1955 at 1,000 tons daily and later increased to 1,500 tons daily. Hydro-electric power was expected to be available in August 1955 when the mine will get into full production at 6,500 tons daily. This \$40,000,000 project is about 60 miles west of the town of Gaspé where an estimated 70,000,000 tons of low grade copper ore has been outlined. Murdochville, a town named after the President of the parent Company, has been founded with all the services of modern living.

Another important source of copper and of gold, both actual and potential, is the Chibougamau area where Opemiska Copper Mines (Quebec) Limited completed its first full year of production in 1954 and a second copper-gold producer, Campbell Chibougamau Mines Limited, entered production in June 1955 at 1,750 tons a day. Opemiska shipped high grade copper concentrates containing about 7,000 tons of copper to the Noranda smelter for treatment. A third company, Chibougamau Explorers Limited, expected production in September 1955. Exploratory and development activity in the area reached record levels during the review period and hydro-electric power was delivered to the area in June 1955. A railway will be constructed from Beattyville in the Senneterre-Val d'Or district into Chibougamau and thence south to St. Felicien. Present access is by road from St. Felicien and by air.

Copper production also comes from the copper-zinc ores of Waite Amulet Mines Limited, East Sullivan Mines Limited, Quemont Mining Corporation Limited, and Normetal Mining Corporation Limited, all in western Quebec. Golden Manitou Mines Limited, a base metal and gold producer in the same area, resumed the development of a low grade copper deposit north of its main workings and scheduled production of a zinc and a copper concentrate in its converted mill for September 1955. In southern Quebec a small output of copper came from Weedon Pyrite and Copper Corporation Limited in Wolfe county and from Ascot Metals Corporation Limited in Sherbrooke county. In Brome county, Quebec Copper Corporation Limited, a subsidiary of East Sullivan Mines Limited, shipped copper concentrates containing 3,500 tons of copper to the Noranda smelter.

Barvue Mines Limited in Barraute township is the largest producer of zinc concentrates in Quebec. During the review period open pit mining operations were carried on at a rate of about 5,000 tons a day. Zinc production also came from the copper-zinc properties of Quemont, Normetal, Waite Amulet and Weedon Pyrite; the zinc-lead-copper properties of Golden Manitou and Ascot Metals, and the zinc-lead properties of Anacon Lead Mines Limited and New Calumet Mines Limited. All zinc concentrates produced in the Province are exported to the United States and Europe.

Quebec's gold production increased from 1,022,000 oz. t. valued at \$35,167,000 in 1953 to 1,099,000 oz. t. valued at \$37,428,000 in 1954. Output came from 16 lode gold mines which contributed about 72 p.c. to the production and from 11 base metal companies including Noranda and five companies that ship ore to it. No new lode gold properties came into production during the review period nor did any cease operations. Eldrich Mines Limited is sinking a 1,075 foot shaft on its property in the Noranda area.

Molybdenite production comes from Molybdenite Corporation of Canada, Limited, about 25 miles north of Val d'Or. The Company is expanding its milling rate from 400 tons daily to 500 tons daily. Shipments in 1954 increased to 376 tons compared with 162 tons in 1953. Most of the production was sold to the United States Government and the remainder went to Europe.

Quebec became Canada's first producer of lithium with the entry into production late in 1955 of Quebec Lithium Corporation's large deposit of spodumene in LaCorne township about 25 miles north of Val d'Or. A 700 foot shaft is being sunk and a mill built with a minimum capacity of 1,000 tons. A five year contract with Lithium Corporation of America Inc., covers the production of 165 tons of lithium concentrates daily.

Quebec Iron and Titanium Corporation continued to operate at Sorel its experimental smelting plant for the treatment of ilmenite ore from the deposits at Allard Lake. Production is in the form of iron and titanium dioxide concentrate. Shipments from Sorel during 1954 amounted to 118,000 tons of titanium dioxide slag containing approximately 82,000 tons of titanium dioxide, a decline from 1953 shipments. Two of the five furnaces of the treatment plant were shut down to permit investigative work directed toward obtaining greater operating efficiency and lower production costs.

The Maritime Provinces.—Metal mining activity in the Maritimes was centred mainly on the development of the properties of Brunswick Mining and Smelting Corporation Limited in the Bathurst area of New Brunswick and on widespread exploration in New Brunswick and Nova Scotia for new sources of base metals. New Brunswick, which, aside from a small output of iron ore, has had no metal mining industry of any kind, recorded its first production of base metal concentrates—lead and zinc—from the Keymet Mines Limited property 15 miles north of Bathurst.

The Province looks forward to a greatly improved economy as Brunswick Mining and Smelting pressed forward the development of the zinc-lead-pyrite Austin Brook deposit 17 miles southwest of Bathurst and the Anacon deposit of a similar type of ore five miles to the north. Combined they are estimated to contain approximately 50,000,000 tons of ore to the 1,000 foot level. Stripping of the Austin Brook deposit, from which an estimated 6,000,000 to 7,000,000 tons of ore can be recovered by open pit methods, was to be finished by the end of 1955. Underground exploration of the Anacon deposit, which will be mined entirely by underground operations, is being carried out from two levels. Production is planned on a minimum basis of 4,000 tons a day, but details hinge on the solution of the metallurgical problems involved in the treatment of the complex ore. Extensive research work is being done in a 150 ton pilot mill. Six miles to the northeast of the Brunswick Austin Brook property, New Larder "U" Island Mines Limited is sinking a 1,500 foot shaft to explore its orebody further.

Probably the most colourful development during the review period was the discovery by the American Metal Company Limited of several extensive zinc-lead-copper-pyrite orebodies on its Little River property 30 miles northwest of Newcastle. The ore is believed to be similar to the Brunswick orebodies. Drilling disclosed reserves of over 7,000,000 tons in several orebodies. Shaft sinking was started as well as investigative work on the metallurgical problems involved in the treatment of the ore.

Considerable exploratory and development work was done on two manganese properties. Strategic Materials Corporation did research near Woodstock on the production of a marketable manganese product from its low grade deposit containing large tonnages

of the ore. Canadian Manganese Mining Corporation Limited, a subsidiary of New Delhi Mines Limited, did exploratory work on its property in the Tetagouche Falls area near Bathurst.

Prospecting for uranium in New Brunswick resulted in several discoveries in widely separated localities. Two of these, one near Harvey about 25 miles southwest of Fredericton and another at Upsalquitch about 10 miles southwest of Campbellton, are being explored.

In Nova Scotia the value of metal production, all of which comes from the Stirling zinc-lead-copper mine of Mindamar Metals Corporation Limited in southern Cape Breton Island, increased from \$3,004,000 in 1953 to \$3,517,000 in 1954. Output comprised 16,985,000 lb. of zinc, 4,186,000 lb. of lead, 1,982,000 lb. of copper, 262,000 oz. t. of silver and 3,754 oz. t. of gold. Cape Breton Metals Limited did considerable work on its mining concession in the northern part of Cape Breton Island where widespread zinc occurrences were disclosed.

Newfoundland.—The chief development in metal mining during the review period was a substantial increase in the output of iron ore, resulting mainly from the entry into production of the New Quebec-Labrador properties of Iron Ore Company of Canada and to a lesser extent from the expansion under way at the Bell Island mines of Dominion Wabana Ore Limited, a subsidiary of Dominion Steel and Coal Corporation Limited. The remainder of the Province's metal production comprises zinc, lead, copper, silver and gold and comes from the operations of Buchans Mining Company Limited near Red Indian Lake in central Newfoundland. With the exception of gold the Company's output in 1954 was higher in both volume and value and, combined with the rise in the value of iron ore production, led to an increase in the value of the Province's metal production from \$27,969,000 in 1953 to \$36,747,000 in 1954. The total value of mineral production in Newfoundland in 1954 was \$42,898,000.

Iron ore production rose 40 p.c. in volume over 1953 reaching a record 3,759,000 long tons valued at \$21,749,000. Initial output by Iron Ore Company amounted to 2,119,000 long tons. (For developments in the New Quebec-Labrador iron ore fields, *see* p. 498.)

Production of direct-shipping iron ore (hematite) from Wabana mines totalled 2,526,000 long tons during 1954, an increase of 5 p.c. over 1953. Shipments however amounted to 2,156,000 long tons compared with 2,400,000 long tons in 1953 and were made as follows: the parent Company's iron and steel plant at Sydney, N.S., 556,000 long tons; United Kingdom 897,000 long tons; and West Germany 703,000 long tons. Approximately one-third of the output goes to Sydney. Dominion Wabana has contracted to sell all the remaining output during 1955 and 1956, 85 p.c. going to West Germany and the United Kingdom during the ensuing five years.

The Company continued to expand and modernize its underground and surface facilities. This included the construction of a sink-float plant to replace hand sorting of the ore and of a 9,000 foot belt conveyor to replace the present diesel truck haulage system, which will bring the total length of the Company's conveyor system to 21,500 ft. Essentially all operations are submarine, extending in some parts about four miles out under the Atlantic Ocean. Ore reserves have been estimated as high as 4,000,000,000 tons.

Buchans Mining Company milled 340,000 tons of ore in 1954. The concentrates produced contained 30,000 tons of zinc, 18,526 tons of lead, and 3,481 tons of copper compared with 28,002 tons of zinc, 17,702 tons of lead and 2,814 tons of copper in 1953. Its silver output increased from 648,000 oz. t. in 1953 to 742,000 oz. t. in 1954 but gold production declined from 7,654 oz. t. to 6,500 oz. t. for the same years. Considerable development work was done on new orebodies in the Rothermere shaft section of the mine.

Newfoundland's output of copper will be increased substantially as a result of developments in the Notre Dame Bay area on the north coast where Bathurst Mining Corporation Limited and Maritimes Mining Corporation Limited are jointly preparing two copper properties for eventual production, one at Tilt Cove on the west side of the Bay and the other at Gull Pond, 50 miles to the south. It is planned to bring the Tilt Cove property,

a former producer, into production first. Initial output of 1,000 tons by 1957 will be increased later to 2,000 tons. Exploratory drilling has outlined over 2,000,000 tons of ore averaging 2.2 p.c. copper. Several other old copper properties in the area were acquired by associated companies.

Widespread exploration was also carried on elsewhere on the Island of Newfoundland and in Labrador. Several new copper-zinc orebodies were discovered south of old workings at the York Harbour mine which was a small producer early in the century.

Subsection 2.—Industrial Minerals*

Noteworthy developments took place in the industrial mineral industries during 1955. Many of them set new production records, new deposits were opened up and new products appeared on the market. Construction activity continued at a very high level and all of the industries producing the materials of construction operated at or near capacity. Altogether about fifty industrial minerals are being produced in Canada. The highlights of that production given here will indicate the rapid advances occurring throughout the whole industrial mineral field.

Gypsum.—Production of gypsum reached a new high during the year when 4,798,200 tons valued at \$8,455,000 were shipped from Canadian quarries. This country ranks second in the world as a producer of gypsum. It is principally used by the construction industry as wallboard, wall plaster, sheathing board, lath and tile. One of the largest deposits on the North American continent came into production during 1955 when National Gypsum (Canada) Limited began shipping from its mine near Milford, N.S. This \$6,000,000 development was five years in the making from the date of the first diamond drilling. The quarry and crushing plant have a present capacity of 5,000 tons per shift. The crushed gypsum is taken 32 miles by rail to Bedford Basin and from that port is carried by ship to the Company's plants along the Atlantic Coast of the United States where it is converted into various gypsum products.

Ownership of several operating gypsum properties changed hands during the year. Victoria Gypsum Company, Limited at Little Narrows, N.S., was purchased by United States Gypsum Company, Chicago. Bellrock Gypsum Industries Limited, a Scottish company, took an option on the plant and quarry of Atlantic Gypsum Limited, of Corner Brook, Nfld., and Columbia Gypsum Company Limited of Vancouver purchased the Windermere, B.C., quarry of Columbia Gypsum Products, Incorporated, whose head office is in Spokane, Washington.

Portland Cement.—The Portland cement industry set an alltime production record in 1955 when, according to preliminary statistics, over 25,860,000 bbl. valued at more than \$64,363,000 were produced. This production however could not meet the insistent demands of the construction industry and close to 3,000,000 bbl. were imported from British, European and United States sources in an effort to overcome shortages in various parts of the country.

The program of rapid expansion in production facilities, begun early in the postwar period, continued at an accelerated pace in 1955. Canada Cement Company, Limited, which operates seven plants in five provinces and produces over 75 p.c. of the Canadian output, is building a new plant at Beachville, Ont., near Woodstock, which will have a yearly capacity of 1,500,000 bbl. and will be in operation in 1956. A new kiln, the seventh, is being added to the Company's Montreal East plant, and a new plant with an annual capacity of 1,200,000 bbl. has been completed at Fort Whyte, Man., alongside the existing plant there. Canada Cement has also nearly completed a 1,000,000 bbl. a year clinker grinding plant at Edmonton, Alta., which will grind clinker made at the Exshaw plant. This plant is so designed that it can be converted into a producing plant by the addition of a kiln. When all of these new units are in operation, Canada Cement will have a yearly productive capacity of 27,000,000 bbl. as compared with 10,000,000 bbl. in 1945.

* Prepared by M. F. Goudge, Chief, Industrial Minerals Division, Department of Mines and Technical Surveys.

The new plant of St. Lawrence Cement Company, which is situated at Villeneuve just east of Quebec City and which has a productive capacity of 1,500,000 bbl. annually, came into production in the spring of 1955. A similar plant will be built by the Company at Clarkson, Ont., west of Toronto, to be in operation early in 1957.

St. Mary's Cement Company at St. Mary's, Ont., is adding a kiln with a capacity of 750,000 bbl. a year. Inland Cement Company, financed by La Société Générale de Belgique, is building a plant at Edmonton, Alta., which will have a capacity of 1,750,000 bbl. a year. British Columbia Cement Company is adding a kiln with a capacity of 1,000,000 bbl. yearly to its Bamberton plant. Saskatchewan Cement Corporation is building a plant at Regina with a capacity of 850,000 bbl., and International Cement Company has announced its intention of building a plant at Chilliwack, B.C., with a capacity of 750,000 bbl. a year.

At the close of 1956 Canada will have a Portland cement industry capable of producing 37,000,000 bbl. annually, and when all the projected plants are in operation the capacity of the industry will be about 40,000,000 bbl. which, on a per capita basis, will far exceed that of any other nation.

Brick and Tile.—The brick industry with traditions that go back to antiquity has obtained its share of the increased business brought about by the continued upsurge in building activity. Production of brick and tile reached a new peak in 1955 when, according to preliminary statistics, the value of structural clay products made exceeded \$35,500,000. British, West German and French capital has become interested in the Canadian brick and tile industry and during 1954 and 1955 several plants were purchased with the intention of increasing the scale of production.

A new tunnel-kiln brick plant to produce buff face-brick was completed at Lantz, N.S., by L. E. Shaw, Limited during the year after tests by the Industrial Minerals Division of the Mines Branch at Ottawa proved that this clay would yield a buff brick of superior quality. It is the only large deposit known in Eastern Canada from which buff brick can be made without the addition of other materials. Extensive expansion and modernization programs are under way at many other clay products plants across the country.

Several new types of building materials are appearing on the market. Prominent among these is cellular concrete which combines lightness with strength and low thermal conductivity. The cellular concrete products at present on the market in Canada are precast units which have been cured in autoclaves. Pre-stressed concrete products are also coming on the market in increasing quantity, fostered by shortages of brick and steel.

Lightweight Aggregate.—The manufacture of lightweight aggregates from shale, clay and slag is also a new and rapidly growing industry in Canada, supplying the construction industry with lighter aggregates than have been available in the past. Seven plants are now making these products from clay and shale, and two plants are producing lightweight aggregates from blast furnace slag. Six other plants are producing expanded perlite from imported raw material and seven are engaged in expanding imported vermiculite. Perlite Manufacturing Corporation announced that it was preparing to produce perlite for the Canadian market from large deposits in British Columbia, 25 miles south of Burns Lake station on the Canadian National Railway. Perlite is a glassy volcanic rock containing about 4 p.c. of combined water. When rapidly heated to a temperature of about 1,500° F. the water is converted into steam and the rock expands into white glassy bubbles that are less than one-tenth the weight of sand or gravel. Perlite finds its principal application in wall plaster where it serves to give a light product with improved thermal and acoustical insulating properties.

Sand and Gravel.—Important changes are taking place in this industry which in 1954 had an output valued at nearly \$59,000,000, a value exceeded only by that of nine other minerals and mineral products produced in Canada in that year. Deposits of high-grade sand and gravel are becoming increasingly difficult to find in many parts of Canada and in others are of insufficient size to provide the quantities required for large engineering

works. Also, present day specifications for sand for use in concrete call for more fines and for more precise gradation in size of the sand particles than is found in most natural deposits. This has resulted in the rise of an entirely new industry to engage in the manufacture of sand from rock. One such sand-making plant is in operation in Calgary and three others are being built adjacent to the major locks and dams of the St. Lawrence Seaway and Power Project to supply the sand for the concrete.

Barite.—Despite the loss of the market for pigment raw material which occurred when titanium dioxide supplanted lithopone as a pigment, the demand for barite remains high and the output from the deposits in Nova Scotia and British Columbia remains near the record high production of 247,227 tons established in 1953. Most of the output comes from the deposit at Walton, N.S., operated by Canadian Industrial Minerals, Limited. This deposit, which ranks as one of the world's largest, was purchased in 1955 by Magnet Cove Barium Corporation of Houston, Texas. After being crushed and washed the ore is shipped by boat to plants on the shores of the Gulf of Mexico where it is ground for use in making heavy drilling muds needed to combat the high pressures encountered in drilling deep oil wells in that area.

Salt.—Rock salt of chemical grade became available to Canadian industry from a Canadian source in August 1955 when the mine of Canadian Rock Salt Company at Ojibway, Ont., commenced production. Two and one-half years of preparatory work and over \$5,000,000 were spent to bring this project into production. Facilities are available to produce 500 tons of salt per hour from a 27 foot salt bed, 1,000 feet below the surface. The output is marketed in both eastern Canada and the eastern United States for chemical purposes and for use on highways to control dust in summer and ice in winter.

Recently Malagash Salt Company, which operates a salt mine at Malagash, N.S., found a new deposit of salt of chemical grade at nearby Pugwash, and is sinking a 400 foot shaft to the deposit with the intention of operating it.

Elsewhere in Canada salt is obtained by introducing water to deeply buried salt beds and pumping up the resulting brine. Production of salt set a new record in 1955 when 1,274,000 tons valued at \$10,286,000 were marketed.

Sulphur.—Good progress is being made in the utilization of domestic sources of sulphur. No commercial deposits of elemental or native sulphur have been found in Canada but there is an abundance of pyrite, pyrrhotite and other sulphide minerals, and also of "sour" natural gas from which sulphur is obtained. No pyrite or pyrrhotite has as yet been mined solely for its sulphur content but production is obtained from byproduct material or from gases given off during the roasting and smelting of sulphide minerals. Elemental sulphur is obtained only from sour natural gas. Production of sulphur and of sulphur compounds in terms of their sulphur content exceeded 600,000 tons in 1955. This is a record high and is over two and one-half times the production of 10 years ago.

The new sulphur and sulphuric acid plant of Noranda Mines Limited at Port Robinson, Ont., which uses byproduct pyrites as its raw material, came into production late in 1954 and in September 1955 a contract was let by Noranda Mines for the construction of the largest sulphuric acid plant in Canada at Cutler, Ont., on the north shore of Georgian Bay. This plant will supply sulphuric acid to the uranium mills of the Blind River district and sulphur to the pulp mills of Northern Ontario. The same process will be used as at Port Robinson and the estimated daily output will be 500 tons of sulphuric acid, 70 tons of elemental sulphur and 350 tons of pure iron sinter.

The production of elemental sulphur from sour gas in Western Canada is increasing rapidly. Shell Oil Company of Canada Limited has increased the capacity of its plant at Jumping Pound, Alta., to 80 tons a day. Canadian Gulf Oil Company has started construction on a new gas treatment and sulphur recovery plant at Pincher Creek, Alta., which, when completed in September 1956, will produce 225 tons of sulphur per day.

After the Trans-Canada gas pipeline is completed, this plant will be enlarged and be capable of producing at least three times as much sulphur. In the near future western Canada may produce over one-half million tons of sulphur annually, a potential that is attracting the attention of major sulphur producing companies in other countries.

Lithium.—A great deal of interest is at present being taken in lithium compounds and much of that interest is centred in developments in Canada. A very large deposit of spodumene—lithium aluminium silicate—has been proved by Quebec Lithium Corporation in the Amos-Val d'Or area of Quebec. A 525 foot shaft was completed in June 1955 and a mill producing 165 tons of spodumene concentrates per day is now in production. These concentrates are exported to Lithium Corporation of America on a five year contract.

In Ontario spodumene was discovered in 1955 in the area between the Nipigon River and Port Arthur and several well-known mining companies are investigating those finds. In Manitoba active exploration is taking place in the Winnipeg River-Cat Lake area where Violamac Mines Limited has reported the development of a large tonnage of spodumene.

Asbestos.—The effects of the great expansion in productive capacity carried out during the past several years is shown in the record production of 1,055,000 tons of fibre valued at \$98,691,000 in 1955. For the first time the value of asbestos produced exceeded that of coal in the same period. Expansion in milling capacity is still in process by a number of the producers and preparations are being made to forsake open pit mining for the block caving system of underground mining as the open pits become worked to their economical limits.

Nepheline Syenite.—Production of this white rock, which consists of a mixture of feldspar and nepheline, is rapidly increasing. It competes with feldspar as a raw material for the ceramic industry. American Nepheline Limited, the original producer of nepheline syenite, is spending \$2,500,000 on a new mill at Nephton, Ont., to produce 500 tons a day, an increase of 100 tons a day over the present plant. Canadian Flint and Spar Company Limited of Ottawa, a subsidiary of International Minerals and Chemicals Corporation of Chicago, is building a mill with an initial capacity of 250 tons a day, whose production will come from the eastern end of the same large deposit worked by American Nepheline.

Subsection 3.—Petroleum and Natural Gas*

The growth that has taken place in Canada's oil industry since 1946 is effectively indicated by the fact that known crude oil and gas liquids reserves were placed at 2,415,945,000 bbl. in 1954, a figure thirty-three times greater than that estimated in 1946, and by the fact that production in the same period increased thirteen-fold. From 1952 to 1953 the reserves figure was raised by 298,665,000 bbl. and from 1953 to 1954 by 372,397,000 bbl. In 1953 crude oil took the lead in value of production among all the minerals produced in Canada and retained that lead in 1954.

Alberta accounts for about 90 p.c. of Canadian oil production, Saskatchewan and Manitoba for about 9 p.c. and Eastern Canada for less than 1 p.c.† The following figures show the number of active oil wells in each of the Prairie Provinces:—

<u>Province</u>	<u>Dec. 1953</u>	<u>June 1954</u>	<u>Dec. 1954</u>	<u>June 1955</u>
Alberta.....	4,504	4,790	5,070	5,440
Saskatchewan.....	760	881	1,094	1,359
Manitoba.....	102	168	284	406

At the end of 1954 British Columbia had almost 100 gas wells awaiting market outlets; Alberta had 471 gas wells capable of production and potential gas wells numbering 4,901; and Saskatchewan had 120 gas wells capable of production.

* Prepared under the direction of Dr. G. S. Hume, Acting Deputy Minister of the Department of Mines and Technical Surveys, by R. B. Toombs, Petroleum Engineer, Mineral Resources Division, Mines Branch.

† Crude oil and natural gas production figures are given at pp. 541-543.

Exploration and development results obtained in western Canada during the first half of 1955 indicated a new high level of activity. About 280 companies planned expenditures for the year amounting to \$400,000,000; an average of 124 seismic crews were at work covering about 260,000 sq. miles of territory, 90 of them in Alberta, the principal region of activity. There was also an increase in exploration in eastern Canada. Early in 1955 over 36,000 sq. miles were held under licence or lease by oil exploration companies and developments in southwestern Ontario oilfields and in the single field in New Brunswick showed signs of increasing the production from these sections of the country.

Details of western Canada activities in the first half of 1955 are given by provinces in the following paragraphs.

Alberta.—In Alberta exploratory drilling was carried out with success in the west-central region on the flank of the Alberta Syncline where formations of Cretaceous, Mississippian and Devonian ages were tested. Drilling in that area led to the development of the Sundre and Westward Ho oilfields and by mid-1955 pipeline transportation for these fields was being planned. West of Edmonton exploratory drilling in the Cardium sand of Upper Cretaceous age resulted in extensions to the Pembina oil area. In the Gilwood and Clear Hills districts of the Alberta Peace River region significant finds of oil were made in a formation of pre-Devonian age. In general the 1954 exploratory program was characterized by a trend from the search for Devonian reef fields towards more emphasis on exploration for Upper Cretaceous sand reservoirs of the broad stratigraphic type. In 1955 there was an important shift in exploratory drilling activity from the Pembina area westward into the area of the foothills.

Successful gas exploration in Alberta included the drilling of a well on the Savanna Creek structure, 60 miles southeast of Calgary. In this well large quantities of gas were discovered in Mississippian rocks within the eastern limits of the Canadian Rockies. Another important Mississippian gas discovery was made 13 miles south of Calgary and midway between the Turner Valley and Jumping Pound fields. Several other Mississippian gas discoveries in the foothills and adjacent areas increased the interest in exploration in this area. Within a radius of 60 miles of Edmonton a number of gas wells were successfully completed in formations of Lower Cretaceous age. One well between the Leduc and Acheson fields yielded 189,000,000 cu. feet of natural gas a day on test. Extensive drilling to test Lower Cretaceous formations was done with good results in the southeastern part of Alberta near the proposed route of the gathering system for the trans-Canada gas pipeline. A significant gas discovery was made in the Devonian D3 reef zone near Whitecourt, 110 miles northwest of Edmonton and 70 miles southeast of the Devonian oilfield at Sturgeon Lake.

Drilling to develop previously discovered oilfields was actively continued. In fact in 1955 there was more emphasis on field development drilling than on exploratory drilling, largely because of the interest in the Pembina area. The Pembina field, discovered in 1953, had over 350 oil wells by mid-1955 and was Alberta's second largest producer. This Upper Cretaceous Cardium sand field covers the greatest area of any oilfield so far discovered in the Western Hemisphere and its oil reserves may prove second only among North American fields to those of the East Texas field. By mid-1955 the field had a proven area of 670 sq. miles and half of all the drilling rigs being used for field development in Alberta were located there. Well depths ranged from 4,600 to 5,800 feet. The light gravity oil, valued at \$2.48 per bbl., is shipped to Edmonton by the 72 mile Pembina pipeline.* In the Sturgeon Lake oilfield sufficient reserves were developed to warrant construction of a pipeline to connect the field with the Trans Mountain pipeline. Drilling in the Fenn-Big Valley fields in central Alberta was the most active Devonian field work in Alberta in 1954. The Lower Cretaceous Viking sand trend, southeast of Edmonton, proved continuous and three fields were joined to form the Joarcam field. The Joffe field, six miles east of Red Deer, was a principal centre of drilling activity in 1955 and became the second largest known oil reservoir in the Viking sand.

* Details on pipelines are given in Chapter XIX, Transportation.

In keeping with good conservation practice, engineering techniques to conserve oil reservoir energy have been adopted at the Leduc, Golden Spike and Turner Valley fields and plans for other fields were under study in 1955. Such engineering techniques, which may involve the injection of either water or gas into the producing formation, insure a maximum recovery of oil.

Increasing attention is also being given to "wet gas" processing. In 1955 there were eight gas conservation plants in Alberta having a total daily capacity of 332,000,000 cu. feet of natural gas. These plants are designed to recover propane, butane and pentane; two of them also treat sulphur bearing natural gas for the recovery of sulphur.

Saskatchewan.—In 1954 there was a marked increase in drilling activity in the south-eastern part of Saskatchewan. Although there has been general exploratory activity throughout the southern part of the Province, south of Saskatoon, production prior to 1954 came largely from an area west of a line through Swift Current and Rosetown with the Lloydminster field marking the northern extent of the area. In this western area oil and gas production is obtained in large part from sands of Jurassic and Cretaceous ages.

In southeastern Saskatchewan the Midale field discovery of 1953 led to a series of other discoveries in limestone formations of Mississippian age during 1954 and 1955. By mid-1955 eight fields having a total of 96 wells had been defined. These fields produce a light-gravity oil, comparable to Alberta oil, from formations in the depth range of 3,500 to 4,600 feet. The rather small and isolated fields have required detailed drilling but the number discovered in a relatively short time has attracted much interest to this part of the Province.

Near Swift Current a total of 195 wells had been completed by mid-1955 in three of Saskatchewan's largest fields—Fosterton, Cantuar, and Success—and the medium-gravity oil from these Lower Cretaceous-Jurassic fields was being transported by pipeline to a United States refinery near St. Paul, Minnesota. The Coleville field near Kindersley, which is Saskatchewan's largest field, had 195 oil wells producing from a sand formation of Mississippian age. The oil is the heavy type similar to that produced in the Lloydminster field. The Smiley Viking sand field adjacent to the Coleville field remained the largest light-gravity oilfield in Saskatchewan and had 127 wells by mid-1955. Pressure maintenance programs for four oilfields were being planned during 1955 to insure maximum oil recovery.

Lower Cretaceous Viking sands of the Coleville-Smiley and the Brock fields are the argest sources of natural gas in the Province. In 1955 gas service from these fields was being extended northward from Saskatoon to Prince Albert.

Manitoba.—Oilfields in Manitoba centre on the town of Virden and oil occurrences so far discovered are Mississippian in age. Exploration continued throughout the south-eastern part of the Province with the principal objective of testing limestone formations which have a depth range of 1,700 to 2,600 feet. The relative shallowness of oil occurrences and the ready access to market of the light-gravity oil produced have been incentives to exploration. Manitoba recorded the greatest percentage increase of any province in drilling and production for the year 1954. A water injection program instituted in the Daly field in 1953 has proved effective and by 1955 a doubling of the ultimate recovery percentage was assured.

British Columbia.—New gas fields discovered included West Buick Creek, Montney, Red Creek, North Beaton, Gates and Nig Creek. In further development of the Fort St. John field, British Columbia's largest gas source, seven productive gas zones were found during the drilling of a deep well in 1954 and the well when completed in a formation of Permo-Pennsylvanian age was found to have a daily open flow of 71,000,000 cu. feet.

Northwest Territories.—Exploration for oil and gas increased but production as yet comes only from the Norman Wells field which was first discovered in 1920 and developed to its present stage during World War II. The first gas discovery outside of this field was made in 1955 at a location 50 miles southwest of Fort Providence.

Petroleum Refining and Marketing.—Expansion of the petroleum refining industry has paralleled the increase in crude oil production; in 1955 the crude oil capacity on a calendar day basis was close to 600,000 bbl., compared with 200,000 bbl. in 1939. More efficient refining operations and the production of higher octane gasolines have been made possible by a general cross-country installation of catalytic cracking units. More recently, most of the larger refineries have also started the installation of catalytic reforming units.

The extent of the increase in crude oil production and petroleum refining capacity is shown in the following tabulation:—

PERCENTAGES OF CANADIAN CRUDE OIL RECEIVED AT REFINERIES

<u>Region</u>	<u>1939</u>	<u>1946</u>	<u>1950</u>	<u>1954</u>
	<u>p. c.</u>	<u>p. c.</u>	<u>p. c.</u>	<u>p. c.</u>
Maritime Provinces.....	—	—	—	—
Quebec.....	—	—	—	—
Ontario.....	0.4	0.5	1	80
Prairie Provinces and Northwest Territories.....	37.0	52.5	99	100
British Columbia.....	—	—	—	88
CANADA.....	3.5	10.0	24.4	54.7
Canadian refinery capacity (barrels per calendar day).	200,020	245,865	358,875	544,750

The above Statement also indicates the progress made in the marketing of Canadian crude oil. In 1954 Prairie Provinces refineries were using domestic crude oil only, British Columbia refineries switched from imported to Canadian crude and Ontario refineries reduced their imports to one-fifth of total requirements. During 1954 Canadian refineries received 169,452,850 bbl. of crude oil of which 92,679,819 bbl., or 54.7 p.c., were from Canadian sources. The 1953 Canadian source supply was 46.0 p.c.

Total crude oil exports in 1954 amounted to only 2,344,948 bbl. In 1955 with two new United States refineries—one in the Puget Sound area of the State of Washington and another near St. Paul, Minnesota—drawing on Canadian crude sources, an appreciable increase in exports was recorded and a daily average of at least 50,000 bbl. estimated.

In 1954 actual daily crude oil production averaged 262,000 bbl., potential production had risen to about 420,000 bbl. a day by the end of the year and oil requirements for the year averaged 559,000 bbl. a day. Discovery, production and consumption trends during 1955 indicated a steady closing of the gap between potential production and oil requirements but a widening of the margin between actual and potential production. Because of the long pipeline transportation distance western Canada crude oil is not competitive with foreign crudes in the Quebec and Maritimes markets even though Canadian field prices are lower than prices of similar crudes elsewhere in the Western Hemisphere. Canadian producers must therefore rely on the growing domestic market stretching from British Columbia to Ontario and seek additional United States markets in areas within range of economic transportation.

Subsection 4.—Coal

Production of coal in Canada continued to decline during the period July 1954 to June 1955 in the face of increasing competition for markets from crude petroleum and natural gas. One of the immediate results of the falling demand for coal was the closing of No. 1B Colliery of Dominion Steel and Coal Corporation at Glace Bay, N.S., on June 30, 1955. Over 700 men were employed in this one colliery.

In 1954 the industry recorded its fourth consecutive substantial decrease in production, recording a decline of over 987,094 tons from the 1953 level to 14,914,000 tons valued at \$96,600,000. Nova Scotia contributed about 39 p.c. of the total production, Alberta 33 p.c., Saskatchewan 14 p.c., British Columbia 9 p.c. and New Brunswick 5 p.c. The decline was greatest in Alberta where it amounted to 18 p.c., British Columbia being next with 13 p.c. Output in Nova Scotia, New Brunswick and Saskatchewan was slightly higher than in 1953.

Canada's consumption of coal in 1954 declined 5,352,000 tons to 32,788,000 tons mainly because of the continued substitution of fuel oil, diesel oil and natural gas for coal in domestic and building heating, for railway use and power production. About 56 p.c. of the coal consumed was imported compared with 60 p.c. in 1953. The reduction was mainly in bituminous coal imported from the United States. Coal sales made by retail fuel dealers decreased 4 p.c., coal used for industrial purposes decreased 9 p.c. and railway consumption 22 p.c. The latter decline was partly the result of less traffic but was mainly attributable to the conversion of steam locomotives from coal to oil and to the steadily increasing use of diesel locomotives. In 1954 the CNR reported the delivery of 100 additional diesel electric locomotives and the CPR had 44 on order. The CPR also ordered an additional 100 units which, when delivered, will bring its total number of diesel locomotives in use to 509.

The use of oil for domestic and building heating purposes has increased by over 140 p.c. since 1947 while the consumption of coal and coke has decreased by about 32 p.c. for the same period on a weight basis. During 1947 the oil consumed estimated as the heat equivalent in terms of coal amounted to 20.3 p.c. of the total fuel used; by 1954 this amounted to over 42 p.c.

The consumption of briquettes increased from 836,000 tons in 1953 to 962,000 tons in 1954, of which 72 p.c. was for railway use. However the steady changeover from coal to oil burning locomotives led to the closing of one of the major locomotive briquette producers in Alberta.

The coal industry is endeavouring to maintain its present market position by reducing costs of production and by producing better coal. Underground operations have been mechanized to a great extent and eastern collieries particularly have been assisted by the use of the Dosco Miner, a machine developed by the Dominion Steel and Coal Corporation of Nova Scotia which is capable of cutting coal from the longwall face without the aid of explosives and of loading it onto conveyors at the rate of 500 tons per eight hour shift. The more extensive use of strip mining methods is also a cost saver. Strip mining is practised in all provinces except Nova Scotia and about 34 p.c. of the 1954 output was produced by this method. Practically all of the output in Saskatchewan was strip mined, 44 p.c. in Alberta, 76 p.c. in New Brunswick and 18 p.c. in British Columbia. On an average the output per man-day in strip mining was 12.5 tons compared with 2.6 tons for underground.

In its efforts to produce better quality coals the industry continued to direct its attention to the use of modern methods of beneficiation such as cleaning, drying, dust-proofing, freeze-proofing and the briquetting of fines. The beneficiation of fines continues to be a major problem and during 1954 additional equipment for the cleaning and drying of fines was installed at certain western collieries.

The federal Department of Mines and Technical Surveys assists the industry by carrying out a group of research projects directed at developing uses for the finer sizes of western Canadian bituminous coals that are particularly friable. One such project relates to the use of coal fines in the metallurgical industry. The Department also is continuing the study of the phenomena of bumps and outbursts occurring in certain coal mines in western Canada and in the Maritimes with the long range objective of evaluating the causes of these phenomena so that mining at depth may be made safe and economical. Detailed stratigraphic and palaeontological studies have been conducted in or near coal-fields of Nova Scotia and New Brunswick to assist in the precise correlation of coal bearing

strata and their contained coal seams. The Department maintains an office at Sydney, N.S., in co-operation with the Nova Scotia Department of Mines and the Nova Scotia Research Foundation to assist in the development and prolong the production life of the Sydney coalfield.

Details on coal in the respective coal producing provinces, follow:

Nova Scotia and New Brunswick.—Nova Scotia produces high-volatile and medium-volatile bituminous coking coals in the Sydney, Cumberland and Pictou areas and some non-coking bituminous coal in the Inverness area. Volume of production in 1954 was slightly higher than in 1953, amounting to 5,843,000 tons valued at \$51,938,000.

Many of the major operations have been mechanized in order to reduce production costs. Several Dosco Miners are in use and a number of new wash plants have been built to clean, size and oil the coal to meet marketing specifications. Dominion Steel and Coal Corporation, the largest operator, temporarily halted the construction of a 6,225 foot inclined tunnel into its submarine workings at Glace Bay which was started a few years ago to increase output and reduce transportation costs. It was planned to equip the tunnel with a belt-conveyor system to bring the coal to surface and a single track road for use in transporting men and material to and from the surface by rope haulage. A similar tunnel is being built at the Princess Colliery at Sydney Mines.

New Brunswick coal output comes mainly from the Minto area and in 1954 amounted to 781,000 tons of high-volatile bituminous coal compared with 721,000 tons in 1953. A minor tonnage came from the Beersville area.

Much of the output from the two provinces is used locally for industrial and domestic purposes. The remainder, amounting to 39 p.c. of the output in 1954, is shipped to central Canada for commercial and railway use.

Saskatchewan.—This Province produces only lignite coal, chiefly from the Bienfait and Roche Percee fields in the Souris area. Production in 1954 amounted to 2,117,000 tons valued at \$3,962,000 compared with 2,021,000 tons valued at \$3,834,000 in 1953. Approximately 53 p.c. of the output in 1954 was shipped to Manitoba for domestic and industrial use. The output of briquettes, which are made from carbonized lignite and are used entirely for domestic purposes, amounted to 41,000 tons in 1954, a slight decline from the 1953 production.

Alberta.—Alberta produces almost all types of coal including a relatively small tonnage of semi-anthracite which in 1954 came from the Cascade area. Coking bituminous coal ranging from high to low volatile is produced in the Crowsnest, Nordegg and Mountain Park areas, mainly for railway and industrial consumption. Lower rank bituminous non-coking coals are produced in the Lethbridge, Coalspur and Saunders areas and in several other areas of the foothills. The coal in the Drumheller, Edmonton, Brooks, Camrose, Castor and Carbon areas is classed as subbituminous and that in the Tofield, Redcliff and several other areas is on the border of subbituminous and lignite. These coals are used mainly for domestic and commercial purposes but an increasing proportion is being used industrially.

Production declined from 5,917,000 tons valued at \$32,110,000 in 1953 to 4,871,000 tons valued at \$26,569,000 in 1954. Since the discovery of the Leduc oil field in 1947 coal output in Alberta has declined 40 p.c. from a production of 8,071,000 tons, a clear illustration of the marked inroads made by crude petroleum into coal marketing outlets. About 49 p.c. of the output in 1954 was bituminous and 51 p.c. subbituminous and lignite, mainly the former. During the review period the only operating mine in the Nordegg area suspended operations and the one remaining in operation in the Mountain Park area curtailed production.

The output of briquettes, which are made from the semi-anthracite coals of the Cascade area and the medium-volatile bituminous coals of the Crowsnest and Mountain Park areas, amounted to 637,000 tons in 1954 compared with 666,000 tons in 1953.

British Columbia.—Bituminous coking coal, ranging from high to low volatile, is mined on Vancouver Island and in the East Kootenay (Crowsnest), Telkwa and Nicola areas. Small quantities of subbituminous coal have been produced in the Princeton field.

Production in 1954 amounted to 1,258,000 tons valued at \$7,735,000 compared with 1,443,000 tons valued at \$8,863,000 in 1953. Output in 1954 was 29 p.c. lower than in 1947, the year in which the Leduc oilfield was discovered.

Medium-temperature oven (byproduct) coke for industrial consumption is manufactured chiefly in the Crowsnest area. A new briquetting plant started operations in the area during 1953 and in 1954 produced over 150,000 tons of railway briquettes from the medium-volatile bituminous coals of the area.

Section 2.—Government Aid to the Mineral Industry*

Subsection 1.—Federal Government Aid

The Department of Mines and Technical Surveys.—The Federal Department of Mines and Technical Surveys came into being on Jan. 20, 1950 in the reorganization of the former Department of Mines and Resources. The Department has five branches—Surveys and Mapping Branch, Geological Survey of Canada, Mines Branch, Dominion Observatories, and Geographical Branch. The Department's functions include the administration of the Emergency Gold Mining Assistance Act and of the Explosives Act.

Surveys and Mapping Branch.—The Branch provides the base maps required for use in the development of Canada's natural resources, produces and distributes all Canadian aids to navigation, is responsible for legal surveys of federal lands and provides a national system of levelling and precision surveys for use as geodetic control by federal, provincial and private agencies.

The Geodetic Survey provides the original surveys that form the framework or basic control for mapping throughout Canada and for engineering and surveying projects related to natural resources development. Survey stations are established at fairly regular intervals across Canada and are marked by permanent monuments whose latitudes, longitudes and elevations above mean sea level are determined with a high degree of accuracy. The determination of geographical position by astronomical observations for mapping purposes in northern areas is being superseded by Shoran trilateration in which the adaptation of radar is meeting with success.

The Topographical Survey provides topographical maps that show all significant natural and artificial features fundamental to the study and economic development of mineral and other natural resources. The Field Survey Section is responsible for the field surveys that provide ground control for mapping from aerial photographs, and the Air Survey Section plots and produces maps from these aerial photographs. The National Air Photographic Library indexes, preserves and distributes prints for all aerial photography done by or for the Federal Government. The Topographical Survey also administers the Canadian Board on Geographical Names.

The Legal Surveys and Aeronautical Charts Division makes and records legal surveys of federal Crown lands in the Yukon and Northwest Territories, the National Parks and Indian lands and reserves. This Division prepares aeronautical charts (for which the preparation of base maps involves planimetry derived from tri-camera aerial photography and altimetry derived from radar measurements) and electoral maps and prepares and distributes flight manuals.

The Canadian Hydrographic Service is responsible for the charting of the coastal and inland navigable waters of Canada, the analyses of tides and tidal current phenomena and the investigation of water-surface elevations of the St. Lawrence-Great Lakes waterway. The resultant data are published in the form of official navigation charts, volumes of Sailing Directions, Tide Tables and Water Level Bulletins.

* Revised under the direction of Dr. G. S. Hume, Acting Deputy Minister, in the Editorial and Information Division, Department of Mines and Technical Surveys, Ottawa.

The Map Compilation and Reproduction Division prepares, draughts and reproduces maps, charts and plans for lithographic printing in multicolour. The work includes the preparation and photo-reproduction of air chart bases, the reproduction and printing of air information for aeronautical charts, the preparation and printing of topographical maps and the reproduction and printing of hydrographic charts.

The Branch had 18 geodetic, 25 topographic, 12 legal survey and 18 hydrographic parties in the field in 1955.

Geological Survey of Canada.—The primary function of the Geological Survey is to obtain information on the geology of Canada that will be of assistance in the search for and development of mineral deposits. The results of its activities also provide a basis for the appraisal and conservation of Canada's mineral resources generally, including water supplies, for soil surveys and for the solution of geological problems that frequently arise in construction projects. Reports issued by the Geological Survey include: memoirs with fairly complete descriptive accounts of the geology of particular areas, accompanied as a rule by geological maps; bulletins dealing with problems rather than areas; papers issued as soon as possible after the close of the field season, treating separately of each area and summarizing the information acquired; and the Economic Geology Series reports, dealing in a comprehensive way with mineral deposits of a particular type. Coloured geological maps are issued on various scales from one inch equalling a few hundred feet to one inch equalling eight or more miles, the common standard scales being one inch to one mile and one inch to four miles. Preliminary maps showing the geology in pattern are issued shortly after the field season ends for those areas where the search for metals or minerals is active.

In 1955 the Geological Survey had 70 parties in the field, 17 fewer than in 1954. However the increased use of aircraft will result in coverage of an area greatly exceeding that of any previous year and will almost complete the geological reconnaissance of the Canadian Shield in the Northwest Territories south of latitude 66°. The work undertaken included a helicopter reconnaissance of the geology of the Queen Elizabeth Islands in Canada's far north. This project, known as *Operation Franklin*, was the largest of its kind ever attempted.

The Precambrian Division is responsible for mapping and studying the rocks of the Canadian Shield and of the Arctic Islands and the Post Precambrian Division for mapping and studying the rocks of the Appalachian and Cordilleran regions and the unconsolidated materials that mantle the bedrock throughout Canada. These studies help to establish the geological history and structure of the regions and the information is used as a guide in the search for mineral deposits.

The Stratigraphy Division includes stratigraphic palæontology, the geology of fuels (oil, natural gas and coal), ground water and engineering geology, subsurface geology and research on coal. Its function is to establish the character, age, thickness and correlation of both exposed and concealed sedimentary formations and to map the distribution and structure of these formations with the object of determining the economic possibilities of prospective oil, gas and coal bearing areas of Canada.

The Mineralogy Division makes mineralogical, geochemical and petrological studies of Canadian mineral deposits and associated rocks. Laboratories provide mineral identifications for the public, supply officers of the Survey with mineralogical, geochemical and chronological data, and permit research on the genesis of ores, fuels and rocks. Systematic mineral collections are maintained and mineral and rock collections are prepared for use by prospectors and educational institutions.

The Mineral Deposits Division conducts special field studies of mineral deposits with particular regard to economic possibilities, origin and the establishment of clues for prospecting for similar deposits. Reports and other information on Canadian mineral deposits are compiled and coded and special reports on deposits and prospecting published. The Division acts as official agent of the Atomic Energy Control Board in conducting research

on uranium deposits and in receiving and compiling reports from companies operating under exploration and mining permits from the Board, and maintains a laboratory for checking radiometric assays and identifications of radioactive minerals.

The Geophysics Division gathers, studies and compiles geophysical data throughout Canada, particularly those relating to the existence of orebodies. Fundamental research is carried out in some phases of geophysical work and all electronic equipment of the Geological Survey is maintained by this Division.

Mines Branch.—The Branch is concerned in the main with the technological problems of the mineral industry and maintains well equipped ore testing, mineral dressing, fuel research, ceramic, radioactivity, industrial minerals and physical metallurgical laboratories.

The Mineral Dressing and Process Metallurgy Division serves Canada's mineral industry through tests, investigations and research on all types of Canadian ores. The main purposes of these activities are to devise economic and efficient methods of processing ores—a service of special benefit to new mining ventures and particularly to those developing low grade or complex deposits—and to assist mine operators in solving problems encountered in mill practice.

The Radioactivity Division is concerned with investigations of radioactive ores, particularly with the development and application of methods whereby marketable concentrates may be produced from individual uranium ores. The primary purposes of the Division's technical services and laboratory facilities are to help bring new properties into production by determining methods suitable for treatment of particular ores and to encourage the search for uranium deposits. Extensive experimental and development work is conducted on the treatment of ores and products from the properties of Eldorado Mining and Refining Limited, a Crown company.

The work of the Industrial Minerals Division consists of tests, research and investigative work on industrial minerals, including water used for industrial purposes. The Division makes field studies of deposits, examines industrial processes utilizing them and conducts research into methods of beneficiating minerals from deposits of marginal and submarginal quality to bring them to the standards demanded by modern industry.

The Fuels Division studies the type, quality and uses of all fuels. It makes studies of production methods largely for the purpose of devising cheaper and more efficient methods of mining, preparing, processing and utilizing coals. Work in the field or laboratories includes: the investigation of methods of mining, particularly of rock pressures in relation to the economical mining of coal at depth, and of coal preparation such as the cleaning and utilization of the low grade finer sizes of bituminous coal which predominate in Canadian mining operations; investigations into the making of coke for foundry and other metallurgical uses and into the increased use of Canadian coal in domestic stokers; high pressure hydrogenation tests on coal for the production of synthetic liquid fuel and hydrogenation as applied to the refining of oil from the bituminous sands of Alberta; and analyses of crude oils and natural gas products.

The Physical Metallurgy Division aids the metal industries through the development of new alloys, new manufacturing techniques and new applications and in activities aimed toward improving present practices in metal fabrication. It serves the Department of National Defence by extensive research and investigative work concerned broadly with the development of defence materials and prototype equipment and with the metallurgical problems of that Department. The Division also handles the metallurgical problems of the atomic energy project at Chalk River, Ont.

The Mineral Resources Division provides a mineral information service that is freely used by government departments, mining and allied industries, and others interested in mining or its significance in the Canadian economy. A mineral resources index inventory is maintained of all known occurrences and of mines, both active and potential. The Division makes economic studies of different phases of the mining industry. It gives technical advice as required for the administration of the Emergency Gold Mining Assistance Act and prepares reports on request to aid in the administration of such

matters as: tax exemptions on new mining properties; tax deductions as an encouragement to prospecting for base metals, other minerals and petroleum; and tax allowances for the drilling of deep test wells for oil in unproven fields.

*Dominion Observatories.**—The two main units of the Dominion Observatories are the Dominion Observatory at Ottawa, Ont., and the Dominion Astrophysical Observatory at Victoria, B.C. Permanent magnetic observatories are maintained at Agincourt, Ont., Meanook, Alta., and at Resolute Bay and Baker Lake, N.W.T. Seismic stations for recording earthquakes are operated at Victoria, Horseshoe Bay and Alberni, B.C.; Ottawa and Kirkland Lake, Ont.; Seven Falls and Shawinigan Falls, Que.; Halifax, N.S.; Saskatoon, Sask.; and Resolute Bay, N.W.T. (See also pp. 43-55.)

The Dominion Observatory, Ottawa, Ont., is responsible for the time service of Canada which involves nightly astronomical observations of star positions and radio broadcast services for distributing accurate time to all parts of Canada. Other astronomical activities centred at Ottawa include upper atmospheric studies by means of meteor observations, studies of the sun and its effect on earthly conditions and mathematical studies of the atmospheres of the sun and stars. The geophysical work, also administered from Ottawa, includes the magnetic survey of Canada with emphasis on aids to air and sea navigation, as well as field and observatory work of interest to the geophysical prospector. The methods of seismology are employed to study important aspects of the earth's crust in Canada and to assist in worldwide investigations of the earth's interior. Gravity observations are carried on throughout Canada with a generally similar purpose, special attention being paid to methods of locating mineral deposits.

The Dominion Astrophysical Observatory, Victoria, B.C., is devoted to fundamental research into the physical characteristics of the sun, stars, planets and the material of interstellar space. Its 73 inch reflecting telescope is one of the largest in the world and through its use many important contributions have been made to astronomical knowledge.

The Geographical Branch.—The function of the Branch is to organize and make available all the geographical data on Canada that might be of use in promoting the economic, commercial and social welfare of Canada. The work is of two kinds—the compilation of geographical material of national significance, and geographical surveys in the field. The chief project at present is the compilation of an Atlas of Canada.

The Dominion Coal Board.†—The Board was established by the Dominion Coal Board Act (R.S.C. 1952, c. 86) which was proclaimed on Oct. 21, 1947. By this Act the Board was constituted a department of government to advise on all matters relating to the production, importation, distribution and use of coal in Canada. The Board is also charged with the responsibility of advising upon and administering transportation subventions.

Accessory to these principal duties the Board is empowered to undertake research and investigations with respect to:—

- (1) the systems and methods of mining coal;
- (2) the problems and techniques of marketing and distributing coal;
- (3) the physical and chemical characteristics of coal produced in Canada with a view to developing new uses therefor;
- (4) the position of coal in relation to other forms of fuel or energy available for use in Canada;
- (5) the cost of production and distribution of coal and the accounting methods adopted or used by persons dealing in coal;
- (6) the co-ordination of the activities of Government Departments relating to coal;
- (7) such other matters as the Minister may request or as the Board may deem necessary for carrying out any of the provisions or purposes of the Act.

In addition the Dominion Coal Board Act provides authority in the event of a national fuel emergency to ensure that adequate supplies of fuel are made available to meet Canadian requirements.

* Information on the work conducted by the Dominion Observatories is given in greater detail in the special article "Geophysics in Canada", at pp. 44-47.

† Prepared under the direction of W. E. Uren, O.B.E., Chairman of the Dominion Coal Board.

At the outset the Board was concerned with the readjustment of the Canadian coal mining industry to peacetime conditions and the implementation of the recommendations of the Royal Commission on Coal (1946). On the Board's initiative, the system of transportation subventions, designed to equalize the competitive position of Canadian and imported coals in Central Canada markets, was reorganized and extended. As a result of the revised Government assistance production reached record heights and the movement of Canadian coals to the Ontario and Quebec markets from eastern and western Canada increased greatly. Employment also increased as did average production per man-day.

Starting in 1952 new economic and technological developments began to have an adverse effect on the situation. It became evident that the Canadian coal industry was being faced with problems that could not have been foreseen by the Royal Commission. The greatly expanded development of oil and natural gas in the western provinces has resulted in growing inroads by these fuels into the markets for locally produced coal. With the extension of pipelines and a plentiful supply of cheap imported residual oils the impact of competing sources of energy on coal markets throughout Canada has been increasingly felt. Dieselization of the railways and conversion of coal burning locomotives to oil has drastically cut and threatens to virtually eliminate in the not too distant future one of the main traditional outlets for Canadian coal. The situation has been made worse by other factors including increased transportation costs on the movement of Canadian coals and a widening price spread at the pithead in favour of the imported products.

As a result of these conditions, which have been aggravated by a succession of mild winters, the Canadian coal industry reached a critical stage during the past two years. The decline in coal mining has occurred despite progressive and substantial increases in the financial assistance extended to it by the Federal Government. Subvention payments have risen from \$4,600,000 in 1951-52 to \$11,300,000 in 1954-55 and in the latter year exceeded those in 1953-54 by \$1,500,000. The Board, in its studies and recommendations, has kept pace with developments and the Government, fully cognizant of the situation, is currently seeking as sound a solution as possible to the difficulties confronting the coal industry. The Board's recommendations as to a Canadian coal production policy have been under study by an ad hoc committee on coal subvention policy, composed of deputy ministers of the departments concerned, preliminary to Government decision.

As agent of the Minister of Mines and Technical Surveys the Board continued to handle applications for loans under the Maritime Coal Production Assistance Act (R.S.C. 1952, c. 179) and to administer the loans granted thereunder. The Board also continued to administer payments under the Canadian Coal Equality Act (R.S.C. 1952, c. 34) which provides a subsidy on Canadian coal used in the manufacture of coke for metallurgical purposes. During the year ended Mar. 31, 1955, 453,646 tons were bonused at a cost of \$224,555.

The Dominion Coal Board maintains a continuous review of Canada's energy requirements. An Interdepartmental Committee on Energy, composed of representatives from the Board and departments and agencies of the government concerned, has been established to centralize all information concerning sources of energy and to investigate their relation to the national economy. Furthermore the Board, in co-operation with the Division of Fuels of the Department of Mines and Technical Surveys, initiated in 1953 a series of studies on power production in Canada with the object of evaluating the possibilities for greater use of Canadian coals in the steam generation of electricity and the increased local markets for these coals that would arise from the production of more and cheaper power. The surveys are also concerned with the over-all energy demand, the interrelation of the various energy sources and the future coal requirements.

The Board since its inception has worked toward the co-ordination of the activities of various government departments and other bodies relating to coal. On the matter of technical research as related to the marketing and distributing of coal, close liaison has been maintained with the Division of Fuels of the Department of Mines and Technical Surveys. Dominion-provincial conferences on coal research have been held annually since 1949 for the purpose of co-ordination and exchange of ideas. An Interdepartmental

Committee on the Supply to the Armed Forces of Fuel and Equipment for Heating was set up in 1949 to advise on the purchase and supply of fuel to the Armed Services. In addition the Board has advised purchasing agents of government departments on questions connected with the buying of coal.

In a wider sphere the Board has met on occasion with the Coal Policy Committee of the Provincial Ministers of Mines and has given consideration to recommendations made by the latter body relating to coal. It has also kept contact with trade and other associations concerned with the various phases of the Canadian coal industry in order to foster better mutual understanding of governmental and private endeavour. Pursuant to the recommendations of the Royal Commission the Board has continued to work for a reduction of customs duties and sales tax on coal mining machinery and has maintained its efforts to create a uniform system of coal mine cost-accounting.

The Dominion Coal Board consists of seven members including the Chairman who is its Chief Executive Officer with the status of a deputy minister. The Board is responsible to and subject to the direction of the Minister of Mines and Technical Surveys.

Subsection 2.—Provincial Government Aid*

Newfoundland.—The Newfoundland Government, through its Mines Branch, provides several valuable services to those interested in prospecting and mining. It will supply certain geological maps of specific areas to interested parties. It will identify specimens sent in from Newfoundland and Labrador and will assay by chemical means those that appear to have some mineral content. If good specimens from a known area warrant it and a request is made for further help a geologist from the Department of Mines and Resources will visit the locality and give advice. Prospecting and mining permits are issued by the Department and claims are registered.

Nova Scotia.—Under the provisions of the Mines Act (R.S.N.S. 1954, c. 179), the Government of Nova Scotia may assist a mining company or operator in the sinking of shafts, slopes, deeps and winzes and the driving of adits, tunnels, crosscuts, raises and levels. This assistance may take the form of work performed under contract, the payment of bills for materials and labour or the guarantee of bank loans. Any such work must be approved by the Department of Mines. The Government is also authorized to assist the mining industry to procure power on the most economical basis and may guarantee the Nova Scotia Power Commission against any loss incurred on account of capital investments made for that purpose or revenue. Mining machinery and equipment that may be used in searching for or testing and mining minerals may be made available through the Government. Such equipment is under the direct supervision of the Chief Mining Engineer.

The Government of Nova Scotia is also empowered to make any regulations considered necessary for increasing the output of coal. Such regulations cover the appropriation, on payment, of unworked coal lands, operation of coal mines, loans or guarantees for loans. Close co-operation is maintained with the Federal Government in carrying out federal regulations made to secure increased production and economical distribution of coal from the mines of the Province.

New Brunswick.—There are five divisions under the Mines Branch of the Department of Lands and Mines. The *Mineral Lands Division* administers the disposition of Crown mineral rights including the issuing of prospecting licences, recording of mining claims, issuing of mining licences and leases and other matters pertaining thereto. Detailed and index claim maps are prepared for distribution. The *Mine Inspection and Engineering Division* administers the safety regulations governing operations under the Mining Act. Regular inspections of all mines are performed. Laboratory facilities are maintained. It is the responsibility of this Division to approve equipment used in mines. The *Geological Division* carries on general and detailed geological mapping and investigation. Maps and

* Compiled from material supplied by the Provincial Governments.

reports are prepared for distribution. Mineral and rock specimens are examined for prospectors. Preliminary examinations of mineral prospects are performed where requested and circumstances warrant. The *Mine Assessment Division* is responsible for collection of mining tax and royalties and preparation of statistics concerning mineral production. The *Bathurst Office Division* serves as recording office for northeastern New Brunswick. In addition claim maps as well as topographical, geological and aeromagnetic maps are available for inspection and distribution. The staff is prepared to provide information concerning the Mining Act and the use of various types of maps.

Quebec.—The Mining Act (R.S.Q. 1941, c. 196) authorizes the Quebec Department of Mines to build, maintain and improve roads needed for mining development. Such work is done by contract under the supervision of departmental engineers. The Act gives the Department considerable latitude in this respect. Certain major roads have been built to new mining districts and completely paid for; on the other hand if a particular property requires a branch road from an established highway the owner may be required to contribute a portion of the cost. To prevent the development of uncontrolled settlements in the vicinity of operating mines the Department regulates the use of land and permits the establishment of well organized communities. The municipal organization of such communities is jointly administered by the Department of Mines and the Department of Municipal Affairs.

The Department maintains well equipped laboratories for the benefit of prospectors, geologists, engineers and mine operators. The facilities include equipment for mineralogy, petrography, ore dressing, and analysis by wet or dry assays, spectrography or X-ray. Qualitative and mineralogical determinations are made free but quantitative analyses are made for a fee according to a tariff schedule. The Mining Act provides free coupons to be used by prospectors in paying for such analyses.

At Val d'Or in western Quebec the Department maintains a sampling and treatment plant where tests may be made on bulk samples and where precious metals may be recovered for prospectors at cost price. The treatment plant, which is fully equipped to carry out a wide variety of pilot-scale ore dressing tests, is at the disposal of mine owners who wish to establish mill-flow sheets. At Thetford Mines in the heart of the asbestos district the Department maintains a laboratory where classification of asbestos is made according to standard designations or grades. The Province has authorized the establishment of research laboratories to assist mining and metallurgical enterprises in the processes and techniques of extracting, transforming and utilizing ores.

The Department undertakes geological mapping and inspection. The work is divided between two branches, one responsible for reconnaissance (areal) mapping, the other doing detailed mapping in mining districts and inspection of individual deposits or properties. Field parties are headed by geologists or mining engineers. The published reports on these investigations are distributed free upon request. During the field season about 30 parties are maintained in different sections of the Province. Offices, in charge of resident geologists, are maintained in mining districts, to collect, preserve and compile geological information disclosed by mining explorations and individual sheets of the compilation are made available to the public.

The Department employs inspectors whose duties are almost exclusively concerned with the safety of workmen in operating mines. Two Mobile Mine Rescue Stations are also operated and a mine rescue training program conducted.

In the field of education for prospectors five-week courses at university level are organized each year at Laval and Montreal Universities. University scholarships are granted each year to deserving undergraduates and postgraduate students in mining, geology and metallurgy, thus contributing to the training of qualified engineers for the benefit of the mining industry. Lectures are given to prospectors at different localities throughout the Province.

Ontario.—The Ontario Department of Mines renders a multiplicity of services of direct assistance to the mining industry within the Province, as briefly enumerated below.

Mining Lands Branch.—This Branch handles all matters dealing with the recording of mining claims, assessment work, etc., and the final issuance of title to mining lands. As a service to the mining public individual township maps are prepared and kept up to date showing lands open for staking and recorded and patented claims therein. As new surveys are made or later data become available maps are revised in keeping with such information. District Mining Recorders maintain offices at strategic locations throughout the Province.

Geological Branch.—A continuing program of geological mapping and investigation is carried out by the geological staff of the Department. Detailed reports and geological maps of the areas studied are made available to the public. In many of the active areas of the Province resident geologists are engaged to gather and make available to the public, information concerning geological conditions, exploration and development within their respective districts. One geologist specializing in industrial minerals is maintained on the staff to examine deposits of this type, to investigate methods of treatment and recovery of such minerals and to compile data on the uses, specifications and markets for such products. Collection and dissemination of information on ground water resources is also a function of the Geological Branch. During the winter months courses of instruction for prospectors are held in various centres throughout the Province.

Laboratories Branch.—The Provincial Assay Office located in the East Block of the Parliament Buildings, Toronto, carries out wet analyses and assays of metal and rock constituents on a custom fee basis and also renders the same service free of charge to holders of valid assay coupons issued for the performance of assessment work on mining claims. The Timiskaming Testing Laboratories situated at Cobalt, in addition to performing fire assays and chemical analyses, conducts a bulk sampling plant mainly to assist the producers of the area in the marketing of the cobalt-silver ores. A Cable Testing Laboratory, wherein all hoisting ropes in use at the mines are periodically tested, is operated under the supervision of the Inspection Branch.

Inspection Branch.—The main function of this Branch is the regular examination of all operating mines, quarries, sand and gravel pits and certain metallurgical works with a view to ensuring proper conditions of health and safety to the men employed. District offices to serve the local areas are maintained in the major mining centres of the Province. Mine rescue stations in the principal mining sections are operated under the supervision of the Inspection Branch.

Exhibitions.—The Department each year presents displays pertaining to mining within the Province at such exhibitions as the Central Canada at Ottawa, the Canadian National at Toronto and at other centres from time to time.

Publications Branch.—All maps and reports of the Department are distributed through the agency of the Publications Branch located at the main office of the Department.

Library.—A mining library for the use of the Department and the public is maintained within the Department. This library is comprised mainly of publications and maps of the Federal and Provincial Governments of Canada as well as of numerous periodicals and bulletins from the United States.

Mining Roads.—The most recent service of the Department is the provision of mining roads. In general two classes of road building are envisioned under this program. The first class of road contemplated is a mining access road, financed solely by the Department, for the purpose of opening up favourable areas for exploration; the second class of road, undertaken jointly by the Department and local mining operators, is intended to assist in the provision of required service roads to such operators. Construction and supervision of the mining roads is carried out by the Department of Highways.

Manitoba.—The Mines Branch of the Manitoba Department of Mines and Natural Resources offers four main services of assistance to the mining industry: maintenance, by the Mining Recorder's office at Winnipeg and The Pas, of all records essential to the granting and retention of titles to every mineral location in Manitoba; compilation, by the geological staff of the Branch, of information pertinent to mineral occurrences of interest both in the past and the present and expansion of this information by a continuing program of geological mapping; enforcement of mine safety regulations and, by collaboration with industry, introduction of new practices such as those concerned with mine ventilation and the training of mine rescue crews which contribute to the health and welfare of mine workers; and maintenance of a chemical and assay laboratory to assist the prospector and the professional man in the classification of rocks and minerals and the evaluation of mineral occurrences.

Saskatchewan.—The assistance given to the mining industry by the Saskatchewan Government consists of: the maintenance of a geology department, under a principal geologist; resident geologists stationed in or near the principal mining areas; geological survey parties and reports; prospectors' school and prospectors' assistance plan.

The Geology Department has its headquarters at Regina. The principal geologist and staff are available at all times to give information and other help to interested parties.

A resident geologist is stationed at Uranium City so as to give all possible assistance to prospectors in this area. During the summer months geological survey parties study and map attractive areas and prepare reports which are made available to anyone interested. The prospectors' school gives basic training in geology, mineralogy and prospecting and exploration techniques to future prospectors. Prospecting has become a skilled and specialized trade and instruction in this field will help young men get a start in a profession very vital to the mining industry of Canada. The prospectors' assistance plan, which is intended to encourage prospecting, assists bona fide prospectors by way of equipment and transportation and provides technical advice regarding geologically favourable areas. Courses on identification of minerals and the use of the geiger counter are conducted at various centres in northern Saskatchewan which are largely settled by Indians and *métis*.

Alberta.—Alberta Government assistance to the mining industry is diversified in character. The Mines Division of the Department of Mines and Minerals regulates coal mines and quarries and maintains standards of safety by inspection and certification of workers. The Workmen's Compensation Board also maintains safety standards and trains mine rescue crews. The oil and gas industries are served in a similar way by the Petroleum and Natural Gas Conservation Board. Its regulatory measures however are also concerned with the prevention of waste of oil and gas resources and with giving each owner of oil and gas rights the opportunity of obtaining a fair share of production. This Board compiles periodic reports and annual records which are of invaluable assistance in oil development in Alberta. The mining industry is also served by the Research Council of Alberta which has made geological surveys of most of the Province and has carried forward projects concerned with the uses and development of minerals. The Council has studied the occurrence, uses and analysis of Alberta coals and their particular chemical and physical properties, the use of coals in the generation of power, the upgrading and the cleaning of coal and has also studied briquetting, blending, abrasion loss, shatter and crushing strength, asphalt binders and dust-proofing of coal. Studies have been made of glass sands, salt, fertilizers, cement manufacture and brick and tile manufacture.

The Province from time to time has had Commissions examine various aspects of the mining industry when it was considered that their findings would be of assistance in developing such industries. The Province, together with the Canadian Association of Oil Well Drilling Contractors and the Western Canada Petroleum Association, maintains a detailed supervisory and safety training program concerned with the drilling of oil and gas wells. Of assistance also to mining companies and oil companies are the special deductions provided for in the Alberta Corporation Income Tax Act. These follow the parallel provisions in the Federal Income Tax Act.

British Columbia.—The Department of Mines of British Columbia provides the following services: detailed geological mapping as a supplement to the work of the Geological Survey of Canada; free assaying and analytical work for prospectors registered with the Department; assistance in the field to the prospector by departmental engineers and geologists; grubstakes, limited to a maximum of \$500, for prospectors; assistance in the construction of mining roads and trails; and inspection of mines to ensure safe operating conditions.

Section 3.—Mining Legislation

Federal Mining Laws and Regulations.—The Federal Government administers the mineral lands of the Yukon Territory and the Northwest Territories as well as those within Indian reserves and in National Parks.

Mining Acts and Regulations covering the Yukon and Northwest Territories are administered by the Lands Division, Northern Administration and Lands Branch, Department of Northern Affairs and National Resources. Grants issued for federal lands (the property of the Federal Government) in these regions reserve to the Crown the mines and minerals underlying such lands.

Mining rights on vacant and certain other federal lands may be acquired by entry or lease for a period usually of 21 years, renewable for further periods of like duration, on the terms and conditions specified in the various Acts and Regulations relating to federal lands.

The disposal of minerals occurring in Indian reserves is subject to the consent of the Indians occupying the reserve and to treaties relating thereto.

The Acts and Regulations governing mining and quarrying on federal lands are summarized in Report No. 828, entitled *Mining Laws of Canada*, issued in 1950 by the Mines Branch, Department of Mines and Technical Surveys, Ottawa. This publication also lists all the laws and regulations pertaining to mining on federal lands. Copies of these individual Acts and Regulations may be obtained by applying to the Northern Administration and Lands Branch mentioned above. Another publication of interest in connection with mining regulations and available from the aforementioned Mines Branch is entitled *Summary Review of Dominion Tax and Other Legislation Affecting Mining Enterprises in Canada*.

Provincial Mining Laws and Regulations.*—All Crown mineral lands lying within the boundaries of the several provinces (with the exception of those within Indian reserves and National Parks which are under the jurisdiction of the Federal Government) are administered by the respective provincial governments.

The granting of land in any province except Ontario and Nova Scotia no longer carries with it mining rights upon or under such land. In Ontario mineral rights are expressly reserved if they are not to be included. In Nova Scotia all minerals belong to the Crown except limestone, gypsum and building materials and, in granting land from the Crown, the right to these minerals goes with the title. In Newfoundland mineral and quarry rights are expressly reserved. Some early grants in British Columbia, Alberta, Saskatchewan, Manitoba, New Brunswick, Quebec and Newfoundland also included certain mineral rights. Otherwise mining rights except in Newfoundland must be separately obtained by lease or grant from the provincial authority administering the mining laws and regulations. Mining activities may be classified as placer, general minerals (or veined minerals and bedded minerals), fuels (coal, petroleum, gas) and quarrying. Provincial mining regulations under these divisions are summarized as follows:—

Placer.—In those provinces in which placer deposits occur there are regulations defining the size of placer holdings, the terms under which they may be acquired and held and the royalties to be paid.

* Compiled from material supplied by the provincial governments.

General Minerals.—These minerals are sometimes described as quartz, lode, or minerals in place. With the exception of British Columbia the most elaborate laws and regulations apply in this division. In all provinces except Alberta a prospector's or miner's licence, valid for one year, must be obtained to search for mineral deposits, the licence being general in some areas but limited in others. A claim of promising ground of a specified size may then be staked. This claim must be recorded within a time limit and payment of recording fees made except in Quebec where no fees are required. Work to a specified value per annum must be performed upon the claim for a period of up to ten years. There is no time limit in British Columbia but \$500 assessment work, of which a survey may represent one-fifth, must be performed and recorded before a Crown grant may be obtained. In Quebec a specified number of man-days of work must be performed and the excess may be carried forward for renewals of licence. Before mining can be commenced a mining concession must be purchased for which it is necessary to produce an engineer's report indicating the presence of an orebody. The taxation applied most frequently is a percentage of net profits of producing mines or royalties. In the Province of Newfoundland the provincial mining tax has been modified since Confederation on Mar. 31, 1949 to conform with the provincial obligations under the Federal-Provincial Tax Agreement. No other form of taxation or royalty now exists.

Fuels.—In provinces where coal occurs the size of holdings is laid down, together with the conditions of work and rental under which they may be held. In Quebec ordinary mining claims give rights to all mineral substances and to their development, and stakings for combustible natural gas, salt, coal, mineral oil or naphtha, or iron sands may cover 1,280 acres per claim. Royalties are sometimes provided for. Acts or regulations govern methods of production. In the search for petroleum and natural gas an exploration permit or reservation is usually required. However in Alberta, Saskatchewan and British Columbia leases usually follow the exploration reservation whether or not any discovery of oil or gas is made because exploration costs are applicable in part on the first year's rental. In other provinces except Manitoba the discovery of oil or gas is usually prerequisite to obtaining a lease or grant of a limited area, subject to carrying out drilling obligations and paying a rental, a fee, or a royalty on production.

Quarrying.—Regulations under this heading define the size of holdings and the terms of lease or grant. On Quebec private lands the quarry belongs to the owner; on Crown lands mineral rights belong to the Crown and may be obtained in accordance with the provisions of the law although the rights to exploit peat or marl must be obtained by special licence. In British Columbia quarry rights are not reserved in Crown grants.

Copies of mining legislation including regulations and other details may be obtained from the provincial authorities concerned.

Section 4.—Statistics of Mineral Production*

The importance of mineral production as compared with other primary industries in Canada is indicated in Chapter XVII and its part in the foreign trade of Canada is dealt with in Chapter XXII.

Subsection 1.—Value and Volume of Mineral Production

Historical Statistics.—Definite records of the annual value of mineral production go back to 1886 only, although actual production began with the earliest settlements. The figures given in Table 1 are not strictly comparable throughout the whole period as minor changes have been adopted in methods of computing both the metallic content of ores sold and the valuations of the products. Earlier methods resulted in a somewhat higher value than those now in use would have shown. However the changes do not interfere with the general usefulness of the figures in showing the broad trends in the mineral industry.

* Revised in the Mining, Metallurgical and Chemical Section, Industry and Merchandising Division, Dominion Bureau of Statistics.

Except for the 1920-30 period the value of Canada's mineral production practically doubled each decade since the turn of the century. From \$64,000,000 in 1900 it rose to \$107,000,000 in 1910 and \$228,000,000 in 1920. In 1930 it was \$280,000,000, rising to \$530,000,000 in 1940, \$1,045,000,000 in 1950 and \$1,488,382,091 in 1954. Similarly, the revised index of physical volume of output from Canadian mines (*see* p. 526) advanced from 37.6 (average 1935-39 = 100) in 1920 to 63.9 in 1930 and 125.7 in 1940. In the next decade however the volume gain was not quite so rapid, the index standing at 145.4 in 1950 and 209.7 in 1954.

1.—Value of Mineral Production 1886-1954

Year	Total Value	Value per Capita	Year	Total Value	Value per Capita	Year	Total Value	Value per Capita
	\$	\$		\$	\$		\$	\$
1886.....	10,221,255	2.23	1933.....	221,495,253	20.83	1944.....	485,819,114	40.67
1890.....	16,763,353	3.51	1934.....	278,161,590	25.90	1945.....	498,755,181	41.32
1895.....	20,505,917	4.08	1935.....	312,344,457	28.80	1946.....	502,816,251	40.91
1900.....	64,420,877	12.15	1936.....	361,919,372	33.05	1947.....	644,869,975	51.38
1905.....	69,078,999	11.51	1937.....	457,359,092	41.41	1948.....	820,248,865	63.97
1910.....	106,823,623	15.29	1938.....	441,823,237	39.62	1949 ²	901,110,026	67.01
1915.....	137,109,171	17.18	1939.....	474,602,059	42.12	1950.....	1,045,450,073	76.24
1920.....	227,859,665	26.63	1940.....	529,825,035	46.55	1951.....	1,245,483,595	88.33
1925.....	226,583,333	24.38	1941.....	560,241,290	48.69	1952.....	1,285,342,353	89.07
1930.....	279,873,578	27.42	1942.....	566,768,672	48.63	1953 ²	1,336,303,503	90.40
1931 ¹	230,434,726	22.21	1943.....	530,053,966	44.94	1954.....	1,488,382,091	96.59
1932.....	191,228,225	18.19						

¹ Beginning with 1931, exchange equalization on gold production is included.

² Includes value of Newfoundland production from 1949.

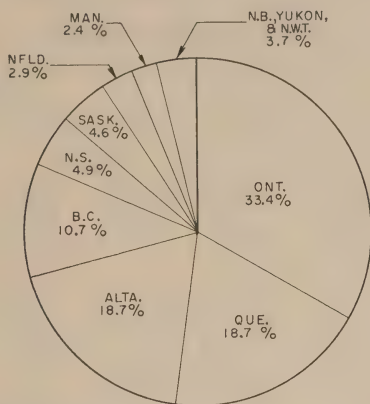
Current Production.—New records were established by the mineral industry in Canada during 1954 when the value of total production reached \$1,488,000,000 which was a gain of nearly \$152,000,000 or 11.4 p.c. over the \$1,336,000,000 of the preceding year. The total value in 1954 was treble that of 1944. All provinces showed greater mineral values than in 1953 and each of the classifications—metals, non-metallies, fuels, and structural materials—reached a new high in total values. Crude petroleum increased by \$43,000,000, copper was up \$25,000,000 and nickel increased nearly \$20,000,000; however a decline of \$6,000,000 was shown for coal and for zinc.

Metals produced in 1954 were valued at \$799,916,000, an increase of 12.8 p.c. over the \$709,000,000 of 1953. Gold production of 4,366,000 oz. t. valued at \$148,765,000 was higher than in 1953, although the price per ounce troy was lower. The settlement of strikes in the earlier part of the year permitted the gold mines to resume production. The production of nearly 303,000 tons of copper was encouraged by the demand which maintained the price at a fairly high level. Nickel production of 161,000 tons valued at \$180,000,000 was 12 p.c. higher in tonnage than in 1953 and lead increased from 194,000 tons to 218,000 tons, valued at \$8,000,000. The volume of zinc declined from 402,000 tons to 376,000 tons and was valued at \$90,207,000. Iron ore shipped amounted to 7,362,000 tons in 1954, a new high in Canadian output. Shipments from the new iron mines in New Quebec and Labrador counterbalanced the lessened exports to steel plants in the Great Lakes area. Silver, a byproduct of many non-ferrous metal mines, increased by 3,000,000 oz. t. over the production of 1953.

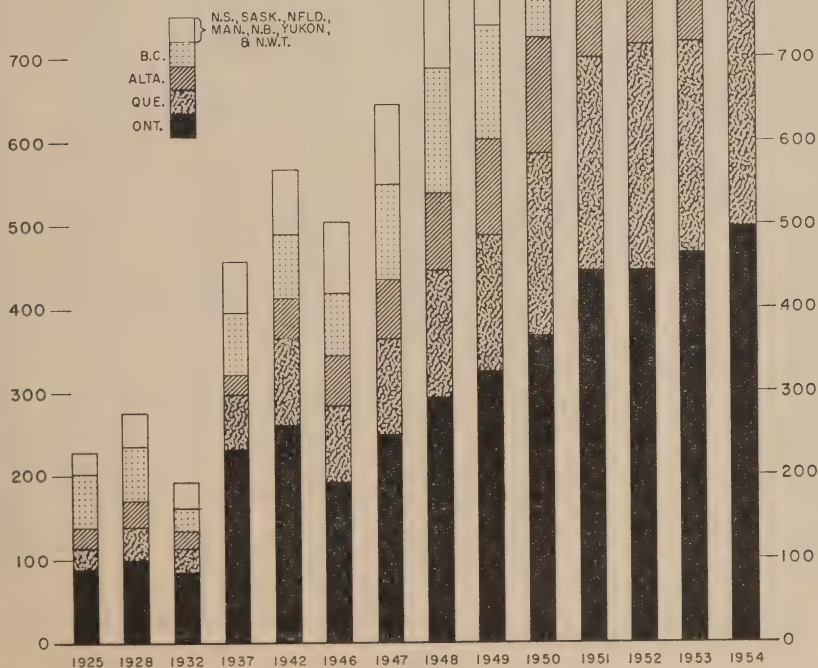
Mineral fuels were valued at \$353,000,000, an increase of nearly 12 p.c. over the \$314,181,000 in 1953. Crude petroleum continued to lead all other minerals in value of production. The output was over 96,000,000 bbl. valued at \$244,000,000. Natural gas volume was up 20,000,000 M cu. feet to 121,000,000 M cu. feet. The conversion of coal burning equipment by railroads and industry has adversely affected the coal mining industry. In 1954 the coal output was 14,914,000 tons which was nearly 1,000,000 tons lower than the preceding year.

TOTAL VALUE OF MINERAL PRODUCTION 1946-54 COMPARED WITH CERTAIN PRECEDING YEARS

PROVINCIAL DISTRIBUTION 1954



MILLIONS OF DOLLARS
800 —



The value of other non-metallic minerals was \$131,000,000. The greater portion of this was derived from the sales of 924,000 tons of asbestos valued at \$86,000,000. Salt and sulphur increased in total value and there was a greater tonnage of fluorspar and sodium sulphate shipped. Shipments of barite, gypsum, soapstone and talc were approximately the same as in the preceding year.

A new high was reached for structural materials at \$204,983,000 as compared with \$187,202,000 in 1953. The tonnage of stone increased disproportionately in 1954 owing to the large volume used in the construction of the Canso Causeway, N.S. Stone used for buildings, ballast, concrete aggregate, highways, etc., was valued at \$39,857,000.

2.—Quantity and Value of Minerals Produced 1952-54

Mineral	1952		1953		1954	
	Quantity	Value	Quantity	Value	Quantity	Value
		\$		\$		\$
Metallics		737,904,366		708,880,758		799,916,306
Antimony..... lb.	2,330,900	601,483	1,488,105	291,862	1,302,333	349,249
Bismuth..... "	162,373	347,224	117,366	209,557	258,675	572,183
Cadmium..... "	948,587	2,086,891	1,118,285	2,236,570	1,086,780	1,847,526
Cobalt..... "	1,421,923	3,226,903	1,602,545	4,013,077	2,252,965	5,912,997
Columbium (Cb ₂ O ₅)..... "	—	—	—	—	90	2,294
Copper..... "	516,075,997	146,679,040	506,504,074	150,953,742	605,464,042	175,712,693
Gold..... oz. t.	4,471,725	153,246,016	4,055,723	139,597,985	4,366,440	148,764,611
Indium..... "	404	909	6,752	9,588	477	1,278
Iron ore..... ton	5,271,849	33,744,311	6,509,818	44,102,944	7,361,598	49,666,507
Iron ingots..... "	32,422	1,815,007	107,370	4,064,039	90,562	2,910,663
Lead..... lb.	337,683,891	54,671,021	387,411,588	50,076,822	436,990,488	58,250,831
Magnesium and calcium..... "	—	4,812,368	—	5,295,840	—	4,101,642
Molybdenite..... "	505,964	409,831	323,907	215,527	752,417	457,912
Nickel..... "	281,117,072	151,349,438	287,385,777	160,430,098	322,557,961	180,173,392
Palladium, rhodium, iridium, etc..... oz. t.	157,407	7,559,109	166,018	7,495,409	189,350	7,956,087
Pitchblende products..... "	1	—	1	—	—	26,467,574
Platinum..... oz. t.	122,317	10,916,792	137,545	12,550,981	154,356	12,950,469
Selenium..... lb.	242,030	786,599	262,346	1,101,854	323,529	1,617,645
Silver..... oz. t.	25,222,227	21,065,603	28,299,335	23,774,271	31,117,949	25,907,870
Tantalum (Ta ₂ O ₅)..... lb.	—	—	—	—	77	2,696
Tellurium..... "	6,035	10,259	4,699	8,215	8,171	14,300
Tin..... "	212,113	253,581	1,092,228	581,746	333,788	263,359
Titanium ore..... ton	51	459	9,294	80,085	1,541	9,462
Tungsten concentrates..... lb.	1,493,111	4,488,237	2,446,028	5,689,160	2,170,633	5,795,781
Zinc..... "	743,604,155	129,833,285	803,523,295	96,101,386	752,982,353	90,207,285
Non-metallics (excluding Fuels)		125,047,050		126,039,359		130,523,624
Arsenious oxide..... lb.	1,708,351	76,876	1,403,740	56,150	1,180,350	48,333
Asbestos..... ton	929,339	89,254,913	911,226	86,052,895	924,116	86,409,212
Barite..... "	136,002	1,521,162	247,227	2,220,292	221,472	2,003,796
Diatomite..... "	28	1,074	103	12,150	4	192
Feldspar..... "	20,267	330,635	21,246	347,164	16,096	301,049
Fluorspar..... "	82,187	2,523,408	88,569	2,670,585	118,969	2,987,026
Graphite..... "	2,040	255,732	3,466	366,528	2,463	254,534
Grindstone..... "	42	5,720	15	900	—	—
Gypsum..... "	3,590,783	6,538,074	3,841,457	7,399,884	3,950,422	7,094,671
Iron oxide..... "	11,487	194,922	10,308	195,801	5,798	183,507
Lithia..... "	—	—	—	—	17,052	6,300
Magnesitic dolomite, brucite..... "	—	2,715,266	—	3,056,392	—	4,394,280
Mica..... lb.	2,014,941	194,106	2,265,128	611,128	1,706,770	85,139
Mineral water..... imp. gal.	311,495	166,033	309,585	165,484	284,078	148,057
Nepheline syenite..... ton	82,681	1,111,950	113,345	1,576,271	123,669	1,770,528
Peat moss..... "	74,899	2,443,765	81,654	2,643,019	99,272	3,018,622
Perlite..... "	—	—	1,112	11,120	—	—
Quartz..... "	1,783,081	2,253,500	1,785,574	2,070,617	1,716,151	1,574,893
Salt..... "	971,903	7,774,815	954,928	6,974,501	969,887	8,340,163
Silica brick..... M	3,544	606,394	3,720	712,271	3,578	465,157
Soapstone and talc..... ton	25,032	280,612	27,408	285,755	28,143	335,353
Sodium sulphate..... "	122,590	1,708,807	115,565	1,681,258	158,417	2,385,573
Sulphur ² "	423,788	3,851,183	358,850	3,172,698	532,406	4,875,969
Titanium dioxide..... "	30,805	1,238,103	100,527	4,206,496	88,408	3,841,270

¹ Not released for publication.

² Sulphur content of pyrite shipped and estimated sulphur contained in the sulphuric acid made from smelter gases.

2.—Quantity and Value of Minerals Produced 1952-54—concluded

Mineral	1952		1953		1954	
	Quantity	Value	Quantity	Value	Quantity	Value
		\$		\$		\$
Fuels.....	...	263,582,319	...	314,181,168	...	352,959,465
Coal..... ton	17,579,002	111,026,149	15,900,673	102,721,875	14,913,579	96,600,266
Natural gas..... M cu. ft.	88,686,465	9,517,638	100,985,923	10,877,017	120,735,214	12,482,109
Peat..... ton	32	320	—	—	6	60
Petroleum, crude..... bbl.	61,237,322	143,038,212	80,898,897	200,582,276	96,080,345	243,877,030
Structural Materials.....	...	168,808,618	...	187,202,218	...	204,982,696
Clay products, brick, tile, etc.....	...	24,961,528	...	29,777,731	...	32,360,098
Cement..... bbl.	18,520,538	48,059,470	22,238,335	58,842,022	22,437,477	59,035,644
Lime..... ton	1,175,786	13,613,221	1,228,760	14,484,013	1,214,839	14,742,149
Sand and gravel.....	102,895,545	51,339,043	101,033,949	53,485,401	110,961,034	58,987,671
Stone..... "	18,726,196	30,835,356	19,849,017	30,613,051	32,767,925	39,857,134
Grand Totals.....	...	1,285,342,353	...	1,336,303,503	...	1,488,382,091

Analysis of Current Value and Volume.—To assist in clearer and simpler interpretation of the trends in mineral production in Canada over the past ten years the percentage of the total value contributed by each principal mineral in each year is given in Table 3. Values upon which percentages in this table are based are the annual values of mineral production, expressed in Canadian currency, as shown in Tables 1 and 2.

3.—Percentage of the Total Value Contributed by Principal Minerals 1945-54

Mineral	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Metallics¹	63.6	57.8	61.3	59.6	59.8	59.0	59.9	56.7	53.1	53.7
Copper.....	11.9	9.3	14.2	13.1	11.6	11.8	11.9	11.4	11.3	11.8
Gold.....	20.8	20.7	16.7	15.1	16.5	16.2	13.0	11.9	10.4	10.0
Iron ore.....	1.1	2.3	2.3	1.5	3.9	3.8	4.2	4.6	6.2	6.2
Lead.....	3.5	4.8	6.9	7.3	5.6	4.6	4.7	4.3	3.7	3.9
Nickel.....	12.4	9.0	11.0	10.6	11.0	10.7	12.1	11.8	12.0	12.1
Platinum metals.....	5.4	2.6	1.5	2.0	2.2	1.7	1.8	1.4	1.5	1.4
Silver.....	1.2	2.1	1.4	1.5	1.5	1.8	1.8	1.6	1.8	1.7
Zinc.....	6.7	7.3	7.2	8.0	8.5	9.4	10.9	10.1	7.2	6.1
Non-metallics¹ (excluding Fuels)	8.0	8.7	8.5	8.2	7.1	9.0	9.3	9.7	9.4	8.8
Asbestos.....	4.6	5.0	5.1	5.1	4.4	6.3	6.5	6.9	6.4	5.8
Gypsum.....	0.4	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.6	0.5
Quartz.....	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1
Salt.....	0.8	0.7	0.7	0.6	0.6	0.7	0.6	0.6	0.5	0.6
Sulphur.....	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3
Fuels	18.7	20.4	17.1	19.5	20.4	19.2	18.7	20.4	23.5	23.7
Coal.....	13.5	15.0	12.0	13.0	12.3	10.5	8.7	8.6	7.7	6.5
Natural gas.....	2.5	2.4	2.1	1.9	1.3	0.6	0.6	0.7	0.8	0.8
Petroleum.....	2.7	3.0	3.0	4.6	6.8	8.1	9.4	11.1	15.0	16.4
Structural Materials	9.7	13.1	13.1	12.7	12.7	12.7	12.1	13.1	14.0	13.8
Clay products.....	1.8	2.4	2.2	2.1	2.0	2.1	1.9	1.9	2.2	2.2
Cement.....	2.9	4.0	3.4	3.4	3.6	3.4	3.2	3.7	4.4	4.0
Lime.....	1.3	1.4	1.3	1.3	1.3	1.2	1.1	1.1	1.1	1.0
Sand and gravel.....	2.1	3.1	3.6	3.7	3.5	3.5	3.6	4.0	4.0	4.0
Stone.....	1.6	2.2	2.6	2.2	2.3	2.5	2.3	2.4	2.3	2.6
Grand Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹ Includes minor items not specified.

The total volume of mineral output attained a wartime peak in 1941 when the production index* stood at 132. Principally because of the steady recession in the mining of gold and other principal metals during the next five years the index gradually declined and reached a ten year low point of 97 in 1946. Since then, sharp gains in the production of petroleum and other non-metals together with moderate increases in metals output, resulted in a sustained advance to a record high level of 210 in 1954.

4.—Indexes of the Volume of Production of the Principal Mining Industries 1945-54

(1935-39=100)

NOTE.—Comparable figures from 1935 are given in the 1954 Year Book, p. 523.

Mineral	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Metallics.....	91.2	79.9	88.7	99.4	107.7	111.0	113.5	116.5	114.1	124.8
Gold.....	64.4	67.6	73.3	84.3	98.3	105.8	104.0	106.5	97.0	103.9
Silver.....	62.7	60.7	60.5	77.9	81.2	104.8	102.7	113.3	126.7	138.8
Copper.....	93.2	72.2	88.5	94.5	99.0	93.4	95.1	91.2	89.6	106.9
Nickel.....	126.5	99.1	122.2	135.9	132.8	127.7	141.2	144.2	147.4	163.4
Lead.....	89.4	91.2	83.3	86.1	67.7	64.6	61.6	65.1	76.3	85.6
Zinc.....	143.8	130.8	115.5	130.1	141.5	145.9	153.0	170.6	186.4	173.8
Non-metallics.....	153.4	170.4	189.2	204.3	175.4	247.2	271.9	267.3	258.1	264.3
Gypsum.....	117.3	210.1	280.0	349.3	346.4	403.6	371.4	370.3	393.8	405.5
Asbestos.....	135.5	150.3	163.1	176.9	141.8	218.5	245.3	245.2	232.3	235.9
Salt.....	161.8	129.5	178.9	177.7	181.2	207.2	233.1	234.6	231.2	232.2
Fuels.....	118.2	121.9	112.8	142.7	173.7	198.0	258.8	301.5	351.5	397.0
Coal.....	106.6	115.6	101.7	120.6	124.4	122.9	119.4	112.9	101.8	94.2
Petroleum.....	205.1	183.4	186.0	297.0	515.0	703.4	1,161.0	1,490.6	1,966.5	2,337.5
Natural gas.....	96.5	94.0	102.6	112.7	110.6	116.9	150.8	188.3	157.5	180.4
Total Mining.....	100.9	97.1	106.2	122.2	131.7	145.4	161.8	174.7	185.8	209.7

Subsection 2.—Provincial Distribution of Mineral Production

Provincial distribution of mineral production value showed only slight changes in 1954 from the 1953 figures. Ontario still remained the leading producer with a 33.4 p.c. contribution to the total value of output (34.9 p.c. in 1953). In 1940 this Province accounted for 49.4 p.c. by value of Canada's mineral production but this percentage has since steadily declined. In 1954 Ontario led in production of cobalt, copper, gold and nickel.

Quebec and Alberta shared second place in production value in 1954 with 18.7 p.c. of the total for each province and British Columbia, which at one time ranked second, came third with 10.7 p.c. production value. Alberta gained second place with its expansion of

* The construction of this index, which is a component of the revised index of industrial production, is described in DBS Reference Paper, *Revised Index of Industrial Production, 1935-51*.

crude petroleum and natural gas output. British Columbia accounted for 78.6 p.c. of Canada's lead production value, 40.3 p.c. of zinc, and 34.8 p.c. of silver; Quebec also contributed 3.6 p.c., 28.4 p.c. and 15.8 p.c. in value to these three minerals. Nova Scotia and Saskatchewan followed with 4.9 p.c. and 4.6 p.c. of Canadian value of production, mainly from coal, barite, gypsum, sand and stone for Nova Scotia and fuels, copper, zinc, silver, sodium sulphate and pitchblende products for Saskatchewan. Newfoundland and Manitoba's share of the national mineral production value increased from 2.5 p.c. and 1.9 p.c. respectively in 1953 to 2.9 p.c. and 2.4 p.c. in 1954. New Brunswick's mineral production, valued at 0.8 p.c. of Canada's total, was derived from gypsum, peat moss, fuels and structural materials.

5.—Value of Mineral Production by Province 1945-54

NOTE.—Figures for 1899-1910 are given in the 1933 Year Book, p. 345; for 1911-28 in the 1939 edition, p. 323; and for 1929-44 in the 1946 edition, p. 323.

Year	Newfoundland	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba
	\$	\$	\$	\$	\$	\$
1945.....	...	32,220,659	4,182,100	91,518,120	216,541,856	14,429,423
1946.....	...	35,350,271	4,813,166	92,785,148	191,544,429	16,403,549
1947.....	...	34,255,560	5,812,943	115,151,635	249,797,671	18,236,763
1948.....	...	56,400,245	7,003,285	152,038,867	294,239,673	26,081,349
1949.....	27,583,615	56,092,830	7,134,009	165,021,513	323,368,644	23,839,638
1950.....	25,824,047	59,482,173	12,756,975	220,176,517	366,801,525	32,691,173
1951.....	32,410,443	59,727,256	9,564,617	255,530,071	444,667,203	30,045,992
1952.....	32,512,313	64,552,383	11,298,960	270,483,962	444,669,412	25,105,045
1953.....	33,780,622	67,364,408	11,663,618	251,881,781	465,877,093	25,264,112
1954.....	42,898,033	73,450,898	12,468,322	278,818,070	496,747,571	35,106,922
	Saskatchewan	Alberta	British Columbia	Northwest Territories	Yukon Territory	Canada
	\$	\$	\$	\$	\$	\$
1945.....	22,336,074	51,753,237	64,063,842	470,812	1,239,058	498,755,181
1946.....	24,480,900	60,082,513	74,622,846	1,039,525	1,693,904	502,816,251
1947.....	32,594,016	67,432,270	116,772,621	2,720,988	2,095,508	644,869,975
1948.....	34,517,208	93,211,229	148,223,614	4,267,485	4,265,910	820,248,865
1949.....	36,054,536	113,728,425	136,385,911	6,801,729	5,099,176	901,110,026
1950.....	35,983,923	135,758,940	138,888,205	8,050,899	9,035,696	1,045,450,073
1951.....	51,032,953	168,144,211	176,278,932	8,288,747	9,793,170	1,245,483,595
1952.....	49,506,094	196,811,654	170,071,244	8,944,835	11,386,451	1,285,342,353
1953.....	48,081,970	248,863,295	158,487,812	10,300,230	14,738,562	1,336,303,503
1954.....	68,216,009	279,042,735	158,630,867	26,414,000	16,588,664	1,488,382,091

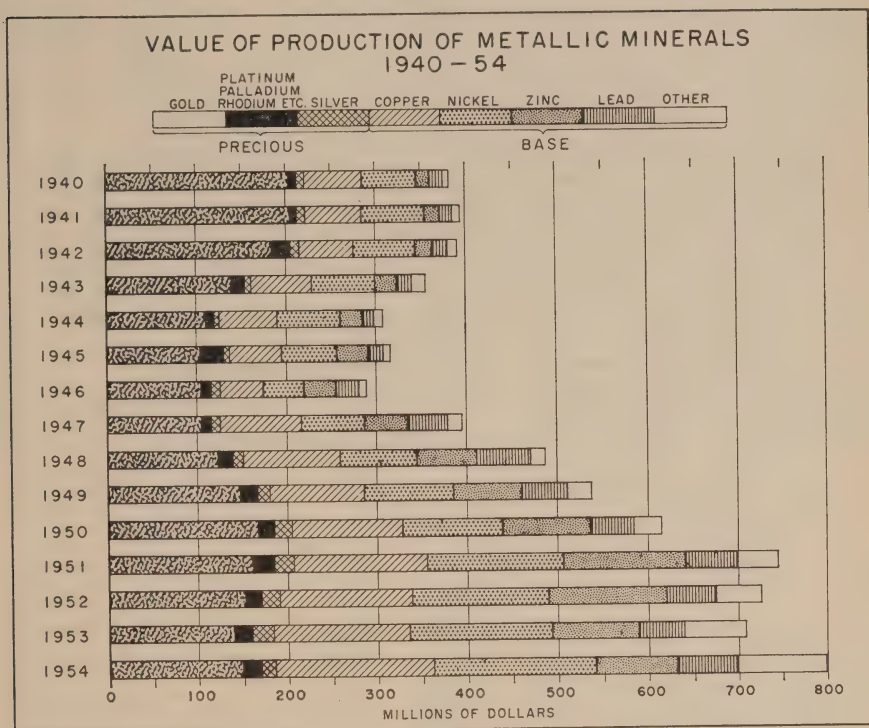
6.—Detailed Mineral Production by Province 1954—concluded

Mineral	Newfoundland	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	North-west Territories	Yukon Territory	Canada
Non-metallics—concl.												
Soapstone and talc.....ton	9	—	—	14,437	13,697	—	—	—	—	—	—	28,143
Sodium sulphate.....ton	230	—	—	165,472	169,651	—	158,417	—	—	—	—	335,353
Sulphur.....ton	—	—	—	—	—	—	2,385,573	—	—	—	—	138,417
Titanium dioxide.....ton	—	—	—	—	—	—	—	—	—	—	—	2,385,573
Titanium dioxide.....ton	—	—	—	1,854,489	495,980	—	—	—	2,525,500	—	—	532,406
Titanium dioxide.....ton	—	—	—	88,408	—	—	—	—	—	—	—	4,875,969
Titanium dioxide.....ton	—	—	—	3,841,270	—	—	—	—	—	—	—	88,408
Titanium dioxide.....ton	—	—	—	—	—	—	—	—	—	—	—	3,841,270
Fuels												
Coal.....ton	—	51,938,299	6,342,292	—	5,398,074	5,619,649	12,436,650	262,739,801	7,927,268	354,660	202,772	352,959,465
Natural gas.....M cu. ft.	—	51,938,299	6,187,622	—	—	—	2,116,710	26,329,053	1,289,510	—	14,113	14,913,579
Peat.....ton	—	—	136,405	—	10,015,818	—	3,333,077	107,173,777	7,927,268	29,085	202,772	96,600,266
Petroleum, crude.....bbl.	—	—	—	—	4,006,327	—	291,644	8,038,053	—	9,700	—	120,735,214
Petroleum, crude.....bbl.	—	—	—	—	60	—	—	—	—	—	—	12,482,109
Petroleum, crude.....bbl.	—	—	13,046	—	412,474	2,148,184	5,492,809	87,713,855	—	—	—	96,080,345
Petroleum, crude.....bbl.	—	—	18,265	—	1,391,687	5,619,649	8,183,304	228,319,165	—	389,887	—	243,877,030
Structural Materials												
Clay Products.....ton	3,079,417	8,787,069	5,690,912	60,880,910	82,985,454	8,882,850	2,900,164	15,574,092	16,201,828	—	—	204,982,696
Clay Products.....bbl.	33,042	1,082,039	857,994	8,055,692	17,230,231	512,980	844,398	2,316,982	1,696,731	—	—	32,360,098
Cement.....ton	403,515	—	854,808	7,541,373	7,208,061	1,633,380	—	3,052,805	1,743,526	—	—	22,437,477
Lime.....ton	1,330,018	—	2,181,854	19,108,680	18,958,173	4,760,530	—	7,761,082	4,935,298	—	—	59,035,644
Sand and gravel.....ton	—	—	22,533	445,892	610,591	59,178	—	32,589	51,046	—	—	1,214,889
Stone.....ton	2,105,522	1,330,979	3,428,318	30,052,887	46,433,191	831,003	5,211,429	7,313,380	935,246	—	—	14,742,149
Stone.....ton	1,096,883	1,297,693	1,832,299	12,985,931	26,577,612	4,831,703	2,055,766	4,867,410	10,153,612	—	—	110,961,034
Stone.....ton	359,350	9,737,607	720,792	10,111,361	2,094,367	2,094,367	—	135,315	6,189,710	—	—	58,987,671
Stone.....ton	619,474	6,407,337	649,604	16,358,810	12,538,699	703,052	—	27,017	1,443,086	—	—	32,707,925
Grand Total, 1954.....\$	42,898,033	73,450,898	12,468,322	278,818,070	496,747,571	35,106,922	68,216,009	279,042,735	153,630,867	26,414,009	16,588,661	1,488,382,091
1953.....\$	33,780,622	67,364,408	11,663,618	251,881,781	465,877,093	25,264,112	48,051,970	248,863,295	158,487,812	10,300,230	11,735,567	1,336,303,503

1 Pitchblende products, etc., are not included.

Subsection 3.—Production of Metallic Minerals

The metals of chief importance in Canada are nickel, copper, gold, zinc, lead, iron, silver and those of the platinum group. These metals are dealt with individually in the following paragraphs. In addition there are a number of metals produced in minor quantities, principally as byproducts in the treatment of metalliferous ores (see Tables 2 and 6).



Nickel.—A new high was reached in 1954 in volume and in total value of nickel produced. The 161,000 tons produced were valued at \$180,000,000 and included refined nickel, nickel in oxides and salts, and nickel in matte exported. Export shipments amounted to 91,400 tons of refined nickel and 65,800 tons of nickel in matte.

The major portion of the output came from the Sudbury, Ont., district where smelters are operated by The International Nickel Company of Canada and Falconbridge Mines Limited. Three other mines in the area shipped ore or concentrates to the Falconbridge smelter: Nickel Rim Mines, Milnet Mines, and Nickel Offsets Limited. The Sherritt Gordon Mines Limited shipped nickel and copper concentrates from the Lynn Lake mine in Manitoba to the firm's refinery at Fort Saskatchewan, Alta., and to other smelters in Ontario and Quebec.

7.—Quantity and Value of Nickel Produced 1945-54

NOTE.—Figures for 1889-1910 are given in the 1929 Year Book, p. 368; for 1911-28 in the 1939 edition, p. 342; and for 1929-44 in the 1946 edition, p. 333.

Year	Quantity	Value	Year	Quantity	Value
	tons	\$		tons	\$
1945.....	122,565	61,982,133	1950.....	123,659	112,104,685
1946.....	96,062	45,385,155	1951.....	137,903	151,269,994
1947.....	118,626	70,650,764	1952.....	140,559	151,349,438
1948.....	131,740	86,904,235	1953.....	143,643	160,430,098
1949.....	128,690	99,173,289	1954.....	161,279	180,173,392

Copper.—Copper produced in Canada in 1954 amounted to 302,700 tons valued at \$175,700,000, a 19·5 p.c. increase in volume and a 16·4 p.c. increase in value. All provinces showed increased production: greatest quantity gains were recorded in Quebec with a 52·8 p.c. increase, Manitoba 30·4 p.c., Newfoundland 23·7 p.c. and Saskatchewan 18·3 p.c. The copper mined at the newly operating Lynn Lake property helped raise the Manitoba total. Ontario mines produced about 141,000 tons and Quebec mines nearly 84,000 tons. Mines in Newfoundland and Nova Scotia exported concentrates to foreign smelters.

8.—Copper Production by Province and Total Value 1945-54

NOTE.—Figures for 1886-1910 are given in the 1916-17 Year Book, p. 272; for 1911-28 in the 1939 edition, p. 335; and for 1929-44 in the 1946 edition, p. 331.

Year	New-foundland	Quebec	Ontario	Manitoba	Saskatchewan	British Columbia	Canada	
							Quantity	Value
	tons	tons	tons	tons	tons	tons	tons	\$
1945.....	...	51,342	119,726	20,563	32,950	12,876	237,457	59,322,261
1946.....	...	34,899	89,712	19,250	31,356	8,750	183,967	46,632,093
1947.....	...	42,561	113,934	15,316	33,151	20,900	225,862	91,541,888
1948.....	...	48,813	120,383	18,960	31,074	21,502	240,732	107,159,756
1949.....	3,617	67,822	113,042	16,960	34,960	27,055	263,456	104,719,151
1950.....	3,221	72,891	117,210	20,817	28,982	21,086	264,207	123,211,407
1951.....	2,899	68,866	128,808	15,839	31,625	21,932	269,970 ¹	149,026,216 ¹
1952.....	2,959	68,846	125,343	9,374	30,344	20,786	258,038 ²	146,679,040 ²
1953.....	2,814	54,920	130,582	9,411	30,588	24,148	253,252 ³	150,953,742 ³
1954.....	3,481	83,930	140,776	12,274	36,192	25,088	302,732 ⁴	175,712,693 ⁴

¹ Includes one ton valued at \$536 produced in N.W.T.
² Includes 383 tons valued at \$218,663 produced in Nova Scotia and 3 tons valued at \$1,969 produced in N.W.T.

³ Includes 788 tons valued at \$471,962 produced in Nova Scotia.
⁴ Includes 991 tons valued at \$577,868 produced in Nova Scotia.

Gold.—The settlement of the labour disputes in northern Ontario and Quebec permitted a greater output of gold bearing ore. There was 4,366,440 oz. t. produced in 1954 compared with 4,055,723 oz. t. in 1953. Nearly all the provinces showed an increase in output. Gold was bought on the basis of \$35 (United States) per oz. t. and, as the Canadian dollar was at a premium through the year, the average price in Canadian funds was \$34.07.

9.—Quantity and Value of Gold Produced by Province 1945-51

NOTE.—Values are calculated at world prices in Canadian funds. Figures for 1862-1910 are given in the 1916-17 Year Book, pp. 268-269; for 1911-28 in the 1939 edition, pp. 336-337; and for 1929-44 in the 1946 edition, p. 332.

Year	Newfoundland		Nova Scotia		Quebec		Ontario	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	oz. t.	\$	oz. t.	\$	oz. t.	\$	oz. t.	\$
1945.....	...	...	3,291	126,704	661,608	25,471,908	1,625,368	62,576,668
1946.....	...	...	4,321	158,797	618,339	22,723,958	1,813,333	66,639,988
1947.....	...	...	1,271	44,485	598,127	20,934,445	1,944,819	68,068,665
1948.....	...	...	188	6,580	770,625	26,971,875	2,095,377	73,338,195
1949.....	9,269	333,684	64	2,304	964,184	34,710,624	2,354,509	84,762,324
1950.....	9,254	352,115	65	2,473	1,094,645	41,651,242	2,481,110	94,405,236
1951.....	8,515	313,778	17	626	1,067,306	39,330,226	2,462,979	90,760,177
1952.....	8,595	294,551	1,433	49,109	1,113,204	38,149,501	2,513,691	86,144,190
1953.....	7,654	263,451	3,248	111,796	1,021,698	35,166,845	2,182,437	75,119,481
1954.....	6,528	222,409	3,754	127,899	1,098,570	37,428,280	2,361,385	80,452,387

Year	Manitoba		Saskatchewan		Alberta		British Columbia	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	oz. t.	\$	oz. t.	\$	oz. t.	\$	oz. t.	\$
1945.....	70,655	2,720,218	108,568	4,179,868	7	269	186,854	7,193,879
1946.....	79,402	2,918,024	112,101	4,119,712	110	4,042	136,242	5,006,983
1947.....	72,906	2,551,710	93,747	3,281,145	78	2,730	249,011	8,715,385
1948.....	106,176	3,716,160	87,927	3,077,445	78	2,730	306,998	10,744,930
1949.....	137,399	4,946,364	94,208	3,391,488	115	4,140	304,307	10,955,052
1950.....	191,725	7,295,136	79,784	3,035,781	152	5,784	290,490	11,053,144
1951.....	163,914	6,040,231	110,216	4,061,460	97	3,574	289,992	10,686,205
1952.....	141,947	4,864,524	93,585	3,207,158	111	3,804	273,059	9,357,732
1953.....	131,309	4,519,656	88,327	3,040,215	65	2,237	264,976	9,120,474
1954.....	134,944	4,597,542	101,785	3,467,815	195	6,644	268,508	9,148,068

Year	Northwest Territories		Yukon Territory		Canada	
	Quantity	Value	Quantity	Value	Quantity	Value
	oz. t.	\$	oz. t.	\$	oz. t.	\$
1945.....	8,655	333,218	31,721	1,221,258	2,696,727	103,823,990
1946.....	23,420	860,685	45,286	1,664,260	2,832,554	104,096,359
1947.....	62,517	2,188,095	47,745	1,671,075	3,070,221	107,457,735
1948.....	101,625	3,556,875	60,614	2,121,490	3,529,608	123,536,280
1949.....	177,493	6,389,748	81,970	2,950,920	4,123,518	148,446,648
1950.....	200,663	7,635,227	93,339	3,551,549	4,441,227	168,988,687
1951.....	212,211	7,819,975	77,504	2,856,022	4,392,751	161,872,873
1952.....	247,581	8,484,601	78,519	2,690,846	4,471,725	153,246,016
1953.....	289,929	9,979,356	66,080	2,274,474	4,055,723	139,597,985
1954.....	308,563	10,512,741	82,208	2,800,826	4,366,440	148,764,611

Lead.—Estimated lead production in 1954 amounted to 218,495 tons, an increase of 13 p.c. over 1953. The 1954 total included the lead in base bullion produced in Canadian smelters and the computed recoverable content of ores and concentrates exported. British Columbia accounted for 79 p.c. of the total, and its output moved up from 148,817 tons in 1953 to 171,768 tons in 1954. The Mackeno Mine in Yukon Territory and its output added to that of the United Keno Mines brought the total for the Territory to 16,883 tons. In Quebec the total production for the Province declined about 15.4 p.c. Nova Scotia's only lead producer increased its output of the preceding year by 14.6 p.c. Total refined lead production was about 166,000 tons. Canadian consumers used about 68,000 tons and 116,409 tons of piglead were exported.

10.—Quantity and Value of Lead Produced from Canadian Ores 1945-54

NOTE.—Figures for 1887-1910 are given in the 1929 Year Book, p. 367; for 1911-28 in the 1939 edition, p. 341; and for 1929-44 in the 1946 edition, p. 333.

Year	Quantity	Value	Year	Quantity	Value
	tons	\$		tons	\$
1945.....	173,497	17,349,723	1950.....	165,697	47,886,452
1946.....	176,987	23,893,230	1951.....	158,231	58,229,146
1947.....	161,668	44,200,124	1952.....	168,842	54,671,021
1948.....	167,251	60,344,146	1953.....	193,706	50,076,822
1949.....	159,775	50,488,879	1954.....	218,495	58,250,831

Zinc.—The production of zinc in 1954 amounted to 376,491 tons valued at \$90,207,285, a decline of 25,271 tons from the alltime high of 401,762 tons of 1953. Average price remained about the same in both years.

In 1954 all provinces except Saskatchewan and British Columbia showed some increases in zinc production over 1953, Yukon and Ontario making the highest gains.

Refined zinc output, including zinc refined from foreign ores, amounted to 213,775 tons in 1954.

Zinc concentrates from Newfoundland, Nova Scotia and Eastern Canada were exported for treatment but a large portion of the zinc ores mined in British Columbia and some from Yukon Territory were treated in the smelter at Trail, B.C.

11.—Quantity and Value of Zinc Produced 1945-54

NOTE.—Figures for 1911-28 are given in the 1939 Year Book, p. 347, and for 1929-44 in the 1946 edition, p. 335.

Year	Quantity ¹	Value	Average Price per lb.	Year	Quantity ¹	Value	Average Price per lb.
	tons	\$	cts.		tons	\$	cts.
1945.....	258,607	33,308,556	6.44	1950.....	313,227	98,040,145	15.65
1946.....	235,310	36,755,450	7.81	1951.....	341,112	135,762,643	19.90
1947.....	207,863	46,686,010	11.23	1952.....	371,802	129,833,285	17.46
1948.....	234,164	65,237,956	13.93	1953.....	401,762	96,101,386	11.96
1949.....	288,264	76,372,147	13.25	1954.....	376,491	90,207,285	11.98

¹ Estimated foreign smelter recoveries and refined zinc produced in Canada.

Iron Ore.—During 1954 the producers of iron ore shipped 7,361,598 short tons valued at \$49,666,507, an increase in both volume and value over the previous year.

In the Labrador-New Quebec area production commenced in June 1954 and the first shipment was loaded at the port of Seven Islands at the end of July.

In Ontario production came from the Hogarth open pit mine of Steep Rock Iron Mines Limited while the Errington underground mine was readied for production. Output from Algoma Oil Properties came from the Helen and Victoria underground mines in the Michipicoten area. At Marmora the stripping of the limestone overburden from the magnetite ore was nearly completed.

Mining was suspended in the Iron Hill mine in British Columbia in 1954 but the Texada mine continued production at about the same rate as previously.

12.—Iron Ore Shipments and Production of Pig-Iron, Ferro-Alloys and Steel Ingots and Castings 1945-54

NOTE.—Figures for 1886-1910 are given in the 1936 Year Book, p. 373; for 1911-28 in the 1939 edition, p. 340; and for 1929-44 in the 1946 edition, p. 333.

Year	Iron Ore Shipments from Canadian Mines	Production of Pig-Iron			Production of Ferro-Alloys	Production of Steel Ingots and Castings
		Nova Scotia	Ontario	Canada		
	tons	tons	tons	tons	tons	tons
1945.....	1,135,444	374,302	1,403,647	1,777,949	178,214	2,877,927
1946.....	1,549,523	317,180	1,089,072	1,406,252	137,822	2,327,283
1947.....	1,919,366	354,789	1,606,787	1,962,848 ¹	227,123	2,945,952
1948.....	1,337,244	438,430	1,687,309	2,125,739	232,734	3,200,480
1949.....	3,675,096	472,885	1,681,600	2,154,485	202,092	3,190,377
1950.....	3,605,261	513,029	1,804,092	2,317,121	180,499	3,383,575
1951.....	4,680,510	485,900	2,066,993	2,552,893	266,252	3,568,720
1952.....	5,271,849	395,262	2,286,323	2,681,585	232,117	3,703,111
1953.....	6,509,818	440,005	2,572,263	3,012,268	153,660	4,116,068
1954.....	7,361,598	314,297	1,896,732	2,211,029	116,141	3,195,030

¹ Includes production of 1,272 tons in British Columbia.

Silver.—Silver production continued its upward trend in 1954 amounting to 31,100,000 oz. t. as compared with 28,300,000 oz. t. in 1953. The larger contributors were British Columbia with nearly 11,000,000 oz. t. and Yukon Territory with 7,000,000 oz. t. In the extreme eastern and western areas of Canada silver is recovered from silver-lead-zinc ores; in Ontario it occurs in the nickel-copper, silver-cobalt, and gold ores; in Quebec it comes from copper-gold-silver and silver-lead-zinc ores; and in Manitoba and Saskatchewan the complex ores of copper-gold-silver-zinc yield sizable quantities of silver.

13.—Quantity of Silver Produced by Province and Total Value 1945-54

NOTE.—Figures for 1887-1910 are given in the 1916-17 Year Book, p. 271; for 1911-28 in the 1939 edition, p. 345; and for 1929-43 in the 1946 edition, p. 334.

Year	Average Price per oz. t. (Canadian funds)	New-foundland	Nova Scotia	Quebec	Ontario	Manitoba
	cts.	oz. t.	oz. t.	oz. t.	oz. t.	oz. t.
1945.....	47-00	...	112	2,149,570	3,185,369	533,883
1946.....	83-65	...	146	1,916,453	2,485,215	528,017
1947.....	72-00	...	97	2,134,189	2,342,032	424,365
1948.....	75-00	...	8	2,376,754	3,210,107	737,298
1949.....	74-25	585,966	3	3,250,578	2,562,859	554,266
1950.....	80-82	575,524	2	4,343,379	4,408,620	893,099
1951.....	94-55	534,519	1	4,154,290	4,520,094	613,141
1952.....	83-52	638,524	91,886	4,536,247	6,491,124	412,149
1953.....	84-01	648,389	226,225	4,571,373	5,154,619	429,508
1954.....	83-26	742,120	262,361	4,907,304	5,443,721	411,125

13.—Quantity of Silver Produced by Province and Total Value 1945-54—concluded

Year	Saskatchewan	British Columbia	Northwest Territories	Yukon Territory	Canada ¹	
	oz. t.	oz. t.	oz. t.	oz. t.	oz. t.	\$
1945.....	1,426,457	5,620,323	2,033	25,158	12,942,966	6,083,165
1946.....	1,498,496	6,078,419	6,112	31,230	12,544,100	10,493,139
1947.....	1,282,546	5,903,367	45,355	372,051	12,504,018	9,002,893
1948.....	1,323,900	6,717,908	25,382	1,718,618	16,109,982	12,082,487
1949.....	1,482,009	7,573,506	70,505	1,562,730	17,641,493	13,098,808
1950.....	1,207,796	8,528,107	62,111	3,202,779	23,221,431	18,767,561
1951.....	1,454,341	8,342,414	64,228	3,442,788	23,125,825	21,865,467
1952.....	1,179,514	7,784,964	59,258	4,028,551	25,222,227	21,065,603
1953.....	1,257,622	9,308,874	63,592	6,639,127	28,299,335	23,774,271
1954.....	1,474,370	10,825,614	59,037	6,992,279	31,117,949	25,907,870

¹ Includes relatively small quantities produced in Alberta.

Metals of the Platinum Group.—Included in this group are platinum, palladium, rhodium, ruthenium and iridium. Nearly all the platinoids produced in Canada come from the nickel-copper ores in the Sudbury area of Ontario. The platinum group residues are recovered from the electrolytic tanks in the nickel refinery at Port Colborne, Ont. The nickel-copper matte shipped by Falconbridge Nickel Company Limited contains some platinum-group metals which are recovered at the refinery in Norway. Production in 1954 amounted to 154,000 oz.t. of platinum valued at \$12,900,000 and 189,000 oz.t. of palladium, rhodium, etc., valued at \$7,900,000.

The industrial uses of the platinum metals have expanded in recent years particularly for electrical and chemical equipment, jewellery, and medical and dental appliances.

14.—Quantity and Value of Platinum and Palladium¹ Produced 1945-54

NOTE.—Records of the platinum production go back to 1887 but, prior to 1921, the amounts were comparatively small and the basis of calculation was not comparable with that now used. Figures for 1921-39 are given in the 1940 Year Book, p. 340, and for 1940-44 in the 1951 edition, p. 513.

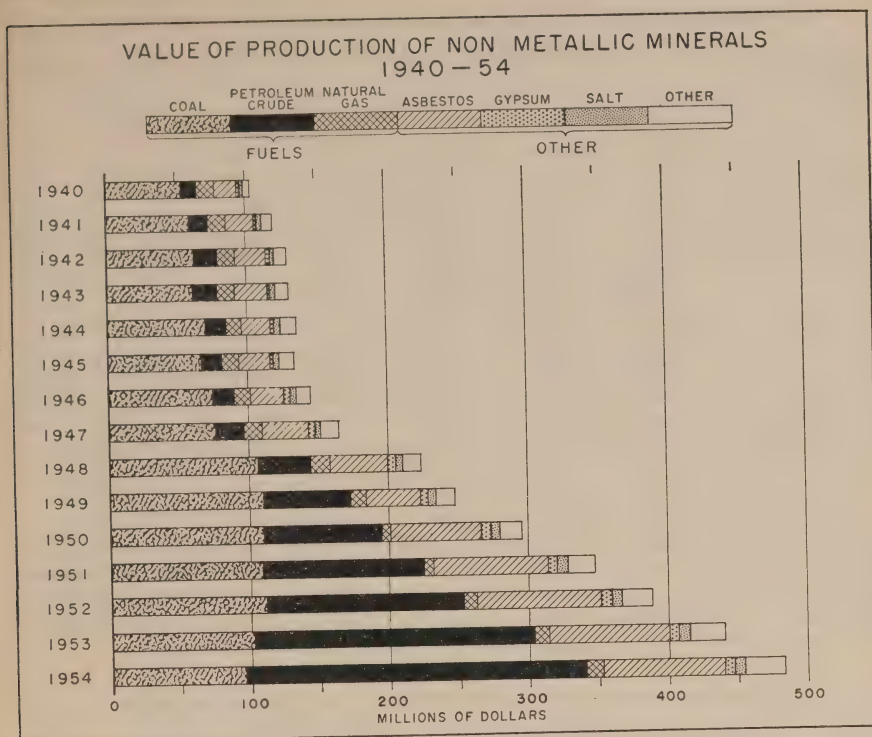
Year	Platinum		Palladium ¹		Year	Platinum		Palladium ¹	
	oz. t.	\$	oz. t.	\$		oz. t.	\$	oz. t.	\$
1945 ²	208,234	8,017,010	458,674	18,671,074	1950.....	124,571	10,255,929	148,741	7,578,144
1946.....	121,771	7,672,791	117,566	5,162,801	1951.....	153,483	14,542,515	164,905	7,950,107
1947.....	94,570	5,582,467	110,332	4,387,740	1952.....	122,317	10,916,792	157,407	7,559,109
1948.....	121,404	10,622,850	148,343	6,295,132	1953.....	137,545	12,550,981	166,018	7,495,409
1949.....	153,784	11,603,002	182,233	8,289,915	1954.....	154,356	12,950,469	189,350	7,956,087

¹ Includes also iridium, rhodium, ruthenium.

² Figures include an accumulated revision for previous years.

Subsection 4.—Production of Non-metallic Minerals (excluding Fuels)

The most important minerals in this group are asbestos, gypsum, salt, and sulphur; it also includes numerous other items such as magnesitic dolomite, peat moss, quartz, sodium sulphate, fluorspar, barite, nepheline syenite, feldspar, silica brick, mica, soapstone and talc, and graphite (see Tables 2 and 6).



Asbestos.—The producers of asbestos shipped about 924,000 tons valued at \$86,400,000 in 1954 as compared with 911,000 tons worth \$86,000,000 in 1953. A modernization and expansion program was under way in Quebec and a new mine in British Columbia was progressing favourably at the end of the year.

15.—Quantity and Value of Asbestos Produced 1945-54

NOTE.—Figures for 1896-1910 are given in the 1911 Year Book, p. 424; for 1911-28 in the 1939 edition, p. 354; and for 1929-44 in the 1946 edition, p. 353.

Year	Quantity	Value	Year	Quantity	Value
	tons	\$		tons	\$
1945.....	466,897	22,805,157	1950.....	875,344	65,854,568
1946.....	558,181	25,240,562	1951.....	973,198	81,584,345
1947.....	661,821	33,005,748	1952.....	929,339	89,254,913
1948.....	716,769	42,231,475	1953.....	911,226	86,052,895
1949.....	574,906	39,746,072	1954.....	924,116	86,409,212

Gypsum.—The production of gypsum was higher in 1954 than in 1953 by 109,000 tons, a result of continued demand by the building trades. Nova Scotia mines accounted for 80 p.c. of the Canadian total.

16.—Quantity of Gypsum Produced by Province and Total Value 1945-54

NOTE.—Figures for 1926-43 are given in the 1943-44 Year Book, p. 321. The 1944 figures are given in the 1955 Year Book, p. 527.

Year	Nova Scotia	New Brunswick	Ontario	Manitoba	British Columbia	Canada	
	tons	tons	tons	tons	tons	tons	\$
1945.....	634,960	46,755	92,174	42,275	23,617	839,781	1,783,290
1946.....	1,538,738	38,839	122,524	63,187	47,649	1,810,937	3,671,503
1947.....	2,137,704	65,939	155,249	79,356	58,736	2,496,984	4,734,853
1948.....	2,795,848	61,534	182,303	94,698	82,426	3,216,809	5,548,245
1949.....	2,555,795	80,436	203,187	94,918	79,913	3,014,249	5,423,690
1950.....	3,185,199	82,641	199,314	114,555	84,627	3,666,336	6,707,506
1951.....	3,190,030	109,469	262,581	134,704	105,908	3,802,692	5,880,853
1952.....	2,969,312	110,183	278,992	130,934	92,702	3,590,783 ¹	6,538,074 ¹
1953.....	3,050,832	120,816	334,495	163,313	145,470	3,841,457 ²	7,399,884 ²
1954.....	3,168,134	88,856	357,432	162,037	147,310	3,950,422 ³	7,094,671 ³

¹ Includes 8,660 tons valued at \$54,881 produced in Newfoundland.

² Includes 26,531 tons valued at \$117,208 produced in Newfoundland.

³ Includes Newfoundland production of 26,653 tons valued at \$124,385.

Salt.—Salt is obtained from brine wells in the Provinces of Ontario, Manitoba and Alberta but in Nova Scotia it is recovered by mining rock-salt and by evaporation from brine. Domestic production is sold principally to the dairy, meat-curing and canning industries, to fisheries, to highways and transport departments, to agriculturists for use as a soil sweetener, to chemical industries, and as table salt. About 50 p.c. of the salt production is used in making caustic soda, soda ash and related chemicals.

17.—Quantity of Salt Produced by Province and Total Value 1945-54

NOTE.—Figures for the years 1926-44 are given in the 1946 Year Book, p. 354.

Year	Nova Scotia	Ontario	Manitoba	Saskatchewan	Alberta	Canada	
	tons	tons	tons	tons	tons	tons	\$
1945.....	37,825	578,697	27,133	—	29,421	673,076	4,054,720
1946.....	38,371	441,679	26,166	—	31,769	537,985	3,626,165
1947.....	40,107	633,766	24,974	—	29,698	728,545	4,436,930
1948.....	61,799	619,598	25,251	—	34,613	741,261	4,836,028
1949.....	86,612	607,206	18,734	8,103	28,359	749,014	5,566,725
1950.....	101,930	696,582	16,592	18,186	25,606	858,896	7,011,306
1951.....	127,252	772,585	16,778	28,192	19,718	964,525	7,905,977
1952.....	138,845	757,025	18,113	33,540	24,380	971,903	7,774,815
1953.....	127,819	749,046	18,078	35,100	24,885	954,928	6,974,501
1954.....	150,589	733,066	17,809	37,227	31,196	969,887	8,340,163

Sulphur.—Sulphur production statistics include the sulphur content of pyrite shipped and the sulphur content of the sulphuric acid and sulphur dioxide made from smelter gases. For statistical purposes the elemental sulphur, recovered during the treatment of natural gas, is not included in the mining industry as it is considered that these treatment plants are more closely allied to the chemical industry.

In 1954 the producers of sulphur shipped 532,000 tons, 174,000 tons more than in 1953; in the earlier year there were large shipments of pyrite from stockpiled production of previous years.

18.—Quantity and Value of Sulphur Produced 1945-54

NOTE.—Figures for 1926-44 are given in the 1946 Year Book, p. 355.

Year	Quantity		Value		Year	Quantity		Value	
	tons	\$	tons	\$		tons	\$	tons	\$
1945.....	250,114	1,881,321	1950.....	301,172	2,189,660				
1946.....	234,771	1,784,666	1951.....	371,790	3,120,785				
1947.....	221,781	1,822,867	1952.....	423,788	3,851,183				
1948.....	229,463	1,836,358	1953.....	358,850	3,172,698				
1949.....	261,871	2,039,384	1954.....	532,406	4,875,969				

Subsection 5.—Production of Fuels*

Coal.—Coal mining continues to be affected adversely by the substitution of fuel oil, natural gas and electricity for heating and power purposes. Output dropped off in 1954 for the fourth successive year, amounting to 14,900,000 tons compared with 15,900,000 in 1953. The principal decline was in Alberta where output dropped to 4,859,000 tons from 5,900,000 tons in 1953. Output in Nova Scotia was 5,840,000 tons against 5,780,000 in the preceding year and there was a slight increase in Saskatchewan's production.

* Information on the coal reserves of Canada is given in the 1950 Year Book, pp. 516-518.

19.—Coal Production by Province 1945-54

NOTE.—Figures for 1874-1910 are given in the 1911 Year Book, p. 419; for 1911-28 in the 1939 edition, p. 348; and for 1929-44 in the 1946 edition, p. 347.

Year	Nova Scotia	New Brunswick	Saskatchewan	Alberta	British Columbia	Yukon Territory	Canada	
	tons	tons	tons	tons	tons	tons	tons	\$
1945.....	5,112,615	361,184	1,532,995	7,800,151	1,609,768	—	16,506,713	67,588,402
1946.....	5,452,898	366,735	1,523,786	8,826,239	1,636,792	—	17,806,450	75,361,481
1947.....	4,118,196	345,194	1,571,147	8,070,430	1,763,890	—	15,868,866	77,475,017
1948.....	6,430,991	522,136	1,589,172	8,123,255	1,780,334	3,801	18,449,689	106,684,008
1949.....	6,181,779	540,806	1,870,487	8,616,855	1,906,963	3,153	19,120,043	110,915,121
1950.....	6,478,405	607,116	2,203,223	8,116,220	1,730,445	3,703	19,139,112	110,140,399
1951.....	6,307,629	653,439	2,223,318	7,659,329	1,739,412	3,696	18,586,823	109,038,855
1952.....	5,905,265	742,823	2,083,465	7,194,757	1,644,250	8,442	17,579,002	111,026,149
1953.....	5,787,026	721,252	2,021,304	5,917,474	1,443,006	10,611	15,900,673	102,721,875
1954.....	5,842,896	781,271	2,116,740	4,859,049	1,299,510	14,113	14,913,579	96,600,266

20.—Imports of Anthracite, Bituminous and Lignite Coal 1945-54

NOTE.—Figures for 1868-1910 are given in the 1911 Year Book, p. 420; for 1911-28 in the 1939 edition, p. 349; and for 1929-44 in the 1946 edition, p. 348.

Year	Anthracite ¹		Bituminous ²		Lignite		Totals ^{2,3}	
	tons	\$	tons	\$	tons	\$	tons	\$
1945.....	3,412,739	27,568,369	21,648,350	74,861,376	467	2,229	25,061,556 ³	102,431,974
1946.....	4,631,387	41,987,460	21,475,040	78,366,184	172	776	26,106,599 ³	120,354,420
1947.....	4,281,682	41,012,759	24,610,045	97,935,771	203	1,255	28,891,930 ³	138,949,785
1948.....	5,244,837	56,380,098	25,614,443	129,929,580	14,632	78,073	30,873,912 ³	186,387,751
1949.....	3,945,135	45,656,328	18,233,528	95,403,106	16,547	89,629	22,195,210 ³	141,149,063
1950.....	4,286,383	54,285,320	22,660,969	120,443,963	7,471	34,848	26,954,823 ³	174,764,131
1951.....	3,853,431	51,244,639	22,938,824	116,802,323	9,150	42,486	26,801,405 ³	168,089,448
1952.....	3,894,863	49,430,308	21,030,503	101,203,443	7,487	33,403	24,932,853 ³	150,667,154
1953.....	2,989,054	40,088,265	20,273,425	96,464,453	3,062	14,735	23,265,541 ³	136,567,453
1954.....	2,754,882	33,163,183	15,822,283	71,617,515	2,824	14,500	18,579,989 ³	104,795,198

¹ Includes anthracite dust.

² Includes coal ex-warehoused for ships' stores.

³ Canada also imported 142,435 tons of briquettes of coal or coke valued at \$1,114,617 in 1945, 182,231 tons valued at \$1,449,221 in 1946, 245,678 tons valued at \$2,233,654 in 1947, 398,753 tons valued at \$3,204,839 in 1948, 186,971 tons valued at \$2,185,707 in 1949, 191,134 tons valued at \$2,316,570 in 1950, 170,157 tons valued at \$2,061,798 in 1951, 155,597 tons valued at \$1,868,619 in 1952, 128,673 tons valued at \$1,601,376 in 1953 and 128,163 tons valued at \$1,583,610 in 1954.

21.—Exports of Domestic Coal 1945-54

NOTE.—Figures for 1868-1910 are given in the 1911 Year Book, p. 421; for 1911-28 in the 1939 edition, p. 349; and for 1929-44 in the 1946 edition, p. 348.

Year	Quantity	Value	Year	Quantity	Value
	tons	\$		tons	\$
1945.....	840,708	5,303,543	1950.....	394,961	3,198,040
1946.....	862,489	5,946,224	1951.....	435,083	3,495,664
1947.....	714,549	5,440,788	1952.....	388,960	3,203,522
1948.....	1,273,262	11,555,985	1953.....	255,274	1,999,908
1949.....	432,043	3,563,892	1954.....	219,346	1,716,435

The sources of coal consumed in Canada in the years 1945-54 are shown in Table 22 and detailed figures of coal made available for consumption in 1953 and 1954 are given in Table 23; the difference between the totals of the two tables in the same year is accounted for by the fact that coal received may be held in bond at Canadian ports and not cleared for consumption until required, and coal received in previous years may be taken out of bond (cleared for consumption) in a later year. Normally the coal made available for consumption is greater than the apparent domestic consumption as coal is landed at Canadian ports and re-exported or ex-warehoused for ships' stores without being taken out of bond but, while remaining in bond at the port, it is available for domestic consumption if required.

22.—Consumption of Canadian and Imported Coal in Canada 1945-54

NOTE.—Figures for 1886-1910 are given in the 1921 Year Book, p. 354; for 1911-28 in the 1939 edition, p. 350; and for 1929-44 in the 1946 edition, p. 349.

Year	Canadian Coal ¹		Imported Coal 'Entered for Consumption'				Grand Total	Con- sump- tion Per Capita ³
			From United States	From United Kingdom	Total ²			
	tons	p.c.	tons	tons	tons	p.c.	tons	tons
1945.....	15,227,819	38.3	24,505,241	28,388	24,521,528	61.7	39,749,347	3.29
1946.....	16,502,508	39.0	25,639,541	101,580	25,740,704	61.0	42,243,212	3.45
1947.....	14,673,967	34.0	28,410,149	52,777	28,462,242	66.0	43,136,209	3.45
1948.....	16,928,028	36.0	30,295,841	162,550	30,454,917	64.0	47,382,945	3.70
1949.....	18,104,626	45.3	21,501,583	331,457	21,833,057	54.7	39,937,683	2.97
1950.....	18,224,944	40.6	26,224,893	423,874	26,649,049	59.4	44,873,993	3.27
1951.....	17,571,154	39.8	26,232,211	291,656	26,523,921	60.2	44,095,075	2.92
1952.....	16,749,416	40.5	24,248,804	356,032	24,603,789	59.5	41,353,205	2.87
1953.....	15,240,105	40.0	22,548,793	352,383	22,900,392	60.0	38,140,497	2.58
1954.....	14,466,212	44.0	18,074,962	266,304	18,322,056	56.0	32,788,268	2.16

¹ The sum of Canadian coal mines' sales, colliery consumption, coal supplied to employees and coal used in making coke, etc., less the tonnage of coal exported.

² Includes small tonnages from countries other than the United Kingdom and the United States. Deductions have been made from this column to take account of foreign coal re-exported from Canada and bituminous coal ex-warehoused for ships' stores.

³ Figures based on estimates of population given at p. 151.

23.—Coal Made Available for Consumption in Canada 1953 and 1954

NOTE.—For details by provinces, see DBS annual report, *The Coal Mining Industry*.

Grade	Canadian Coal				Coal Imported ¹		Coal Made Available for Consumption	
	Produced		Exported		1953	1954	1953	1954
	1953	1954	1953	1954				
	tons	tons	tons	tons	tons	tons	tons	tons
Anthracite.....	—	—	—	—	2,931,599	2,737,172	2,931,599	2,737,172
Bituminous.....	11,479,395	10,340,616	184,511	136,143	19,485,972	15,690,864	30,780,856	25,895,337
Subbituminous.....	2,399,974	2,456,223	91	218	—	—	2,399,883	2,456,005
Lignite.....	2,021,304	2,116,740	454	1,274	—	—	2,020,850	2,115,466
Totals.....	15,900,673	14,913,579	185,056	137,635	22,417,571	18,428,036	38,133,188	33,203,950

¹ Coal reaching Canadian ports whether or not it is cleared through customs, exclusive of 104,216 tons of imported briquettes in 1953, and 122,966 tons in 1954.

Petroleum.—A special article on the Canadian crude petroleum situation up to the end of 1951 is given in the 1952-53 Year Book, pp. 524-527. That information is brought up to the end of 1952 in the 1954 Year Book, pp. 540-544, to June 1954 in the survey at pp. 492-494 of the 1955 edition, and to June 1955 at pp. 505-508 of the present volume. Information on oil and gas pipelines in Canada is included in Chapter XIX.

In 1954 Canadian crude oil production totalled 96,080,345 bbl., an increase of 32.8 p.c. over the 1953 production of 80,898,897 bbl. Western Canada accounted for 99 p.c. of the total and Alberta yielded 87,714,000 bbl. or 91 p.c. There was an increase in Saskatchewan in 1954 with a yield of 5,400,000 bbl., and Manitoba, which had no production previous to 1951, showed a yield of 2,148,000 bbl. in 1954.

24.—Quantity and Value of Crude Petroleum Produced by Province 1945-54

NOTE.—Figures for 1936-44 are given in the 1948-49 Year Book, p. 476.

Year	New Brunswick	Ontario	Saskatchewan	Alberta	Northwest Territories	Canada
QUANTITY						
	bbl.	bbl.	bbl.	bbl.	bbl.	bbl.
1945.....	30,140	113,325	14,374	7,979,786	345,171	8,482,796
1946.....	28,584	123,082	118,686	7,137,921	177,282	7,585,555
1947.....	23,129	131,295	540,117	6,770,477	227,474	7,692,492
1948.....	21,372	176,989	849,166	10,888,592	350,541	12,286,660
1949.....	19,544	260,670	782,188	20,087,418	155,528	21,305,348
1950.....	17,137	250,655	1,041,098	27,548,169	186,729	29,043,788
1951.....	15,551	197,171	1,249,281	45,915,384	227,449	47,615,534 ¹
1952.....	14,237	191,814	1,696,505	58,915,723	314,217	61,237,322 ²
1953.....	14,738	299,685	2,797,888	76,816,383	316,689	80,898,897 ³
1954.....	13,046	412,474	5,422,899	87,713,855	369,887	96,080,345 ⁴
VALUE						
	\$	\$	\$	\$	\$	\$
1945.....	42,413	268,478	15,362	13,169,692	136,303	13,632,248
1946.....	40,018	291,719	135,990	14,347,933	173,392	14,989,052
1947.....	32,381	350,000	614,156	18,078,907	500,238	19,575,682
1948.....	29,920	608,109	976,541	35,127,751	676,574	37,418,895
1949.....	27,362	901,143	836,941	58,999,936	353,108	61,118,490
1950.....	23,992	892,000	1,134,797	82,216,492	352,656	84,619,937
1951.....	21,771	677,905	1,659,045	113,870,152	399,887	116,655,238 ¹
1952.....	19,932	641,037	2,256,352	139,512,432	379,160	143,038,212 ²
1953.....	20,633	994,835	3,833,107	193,761,644	257,251	200,582,276 ³
1954.....	18,265	1,391,687	8,183,304	228,319,165	344,960	243,877,030 ⁴

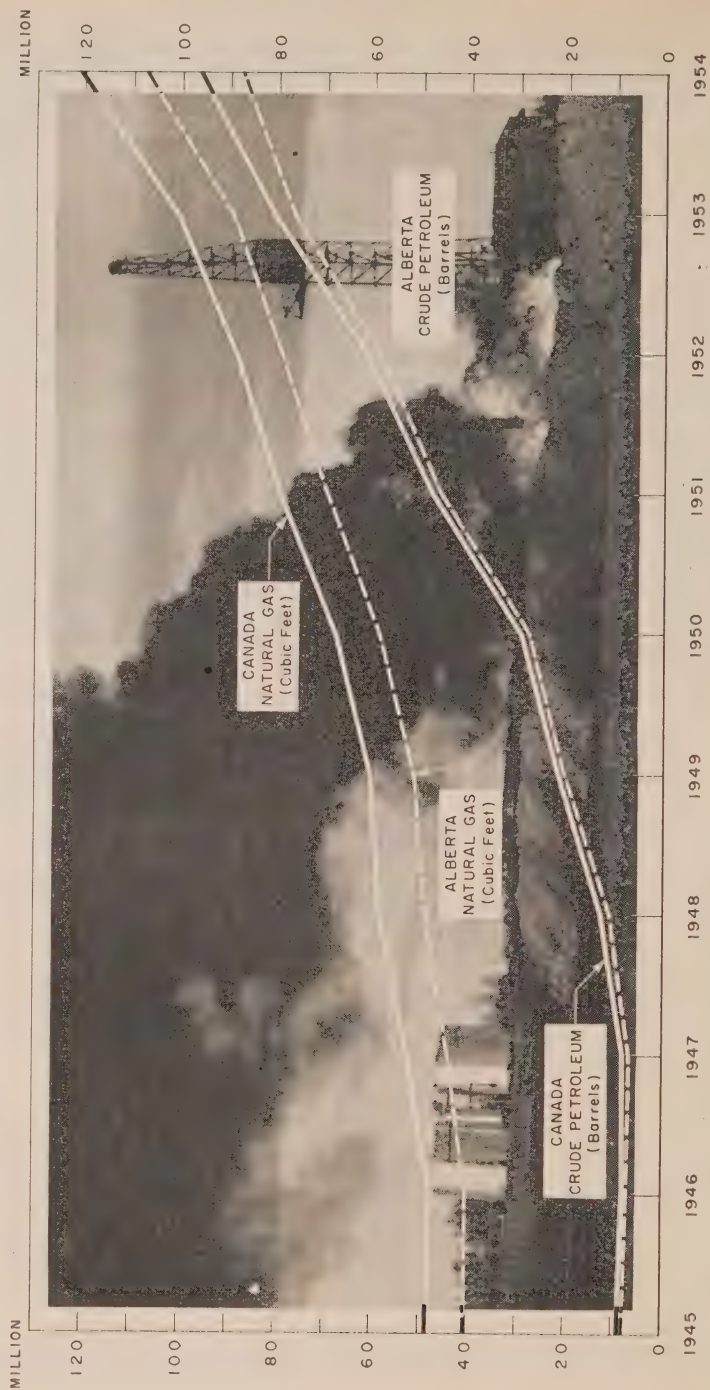
¹ Includes 10,698 bbl. valued at \$26,478 produced in Manitoba.

² Includes 104,826 bbl. valued at \$229,299 produced in Manitoba.

³ Includes 653,514 bbl. valued at \$1,714,806 produced in Manitoba.

⁴ Includes 2,148,184 bbl. valued at \$5,619,649 produced in Manitoba.

PRODUCTION OF CRUDE PETROLEUM AND NATURAL GAS FOR CANADA AND THE PROVINCE OF ALBERTA 1945—54



Natural Gas Production.—Alberta accounts for almost 90 p.c. of Canada's production of natural gas. It is estimated that the total output for all provinces was almost 121,000,000,000 cu. feet in 1954 of which 107,000,000,000 cu. feet was from Alberta wells. Ontario's production amounted to over 10,000,000,000 cu. feet in 1954. (*See also* the survey of the petroleum and natural gas industry up to June 1955, pp. 505-508, and the article on the construction of pipelines in Canada, Chapter XIX.)

25.—Quantities of Natural Gas Produced by Province 1945-54

NOTE.—Figures for 1920-28 are given in the 1940 Year Book, p. 347, and for 1929-44 in the 1946 edition, p. 350.

Year	New Brunswick	Ontario	Saskatchewan	Alberta	Northwest Territories	Canada	
	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.	\$
1945.....	653,230	7,199,970	163,824	40,393,061	1,500	48,411,585	12,309,564
1946.....	541,010	7,051,309	209,569	40,097,096	1,500	47,900,484	12,165,050
1947.....	489,810	7,785,921	274,193	44,106,643	—	52,656,567	13,429,558
1948.....	420,352	8,590,429	477,271	48,965,217	150,000	58,603,269	15,632,507
1949.....	375,035	8,024,213	812,916	51,179,779	65,234	60,457,177	11,620,302
1950.....	361,877	8,009,488	813,554	58,603,976	33,335	67,822,230	6,433,041
1951.....	261,579	8,442,842	860,082	69,876,831	19,333	79,460,667	7,158,920
1952.....	202,042	8,302,190	1,007,491	79,149,595	24,847	88,686,465	9,517,638
1953.....	177,112	9,708,999	1,422,128	89,651,605	26,109	100,985,923	10,877,017
1954.....	183,457	10,015,818	3,333,077	107,173,777	29,085	120,735,214	12,482,109

Subsection 6.—Production of Structural Materials

Production of structural materials is dependent upon the activity of the construction industry; output in 1954 reached a record value of \$203,980,000. This group includes clay and clay products (brick, drain tile, sewer pipe, etc.), cement, lime, sand, gravel and stone.

26.—Value of Structural Materials Produced by Province 1945-54

NOTE.—Figures for 1926-44 are given in the 1946 Year Book, p. 355.

Year	Newfoundland	Nova Scotia	New Brunswick	Quebec	Ontario
	\$	\$	\$	\$	\$
1945.....	...	1,310,214	1,489,210	17,051,353	17,437,552
1946.....	...	1,671,504	1,817,401	22,615,910	24,293,081
1947.....	...	2,724,003	2,397,433	29,236,137	30,447,055
1948.....	...	3,419,820	2,456,778	39,415,625	35,208,061
1949.....	1,683,483	3,445,872	2,508,033	38,735,128	40,755,195
1950.....	1,619,068	3,370,622	7,597,036	42,586,473	49,701,917
1951.....	1,490,381	3,476,399	4,029,324	51,450,113	60,202,877
1952.....	2,283,326	3,350,941	4,856,861	57,566,708	66,581,698
1953.....	3,062,606	3,317,733	5,136,128	57,086,039	77,219,296
1954.....	3,079,417	8,787,069	5,690,912	60,880,910	81,985,454
Year	Manitoba	Saskatchewan	Alberta	British Columbia	Canada
	\$	\$	\$	\$	\$
1945.....	3,212,917	834,564	3,305,941	3,777,922	48,419,673
1946.....	4,235,389	1,322,107	4,765,108	5,399,721	66,120,221
1947.....	4,772,908	1,632,625	4,726,752	8,639,872	84,576,785
1948.....	6,050,453	1,426,836	7,089,427	10,060,246	105,127,246
1949.....	5,791,820	2,341,354	6,963,395	11,678,799	113,903,079
1950.....	6,507,817	2,021,376	8,377,256	10,514,647	132,296,212
1951.....	7,487,168	2,490,726	9,322,492	11,384,311	151,333,791
1952.....	7,903,121	2,369,697	10,828,838	13,067,428	168,808,618
1953.....	8,226,689	2,959,853	15,663,595	14,530,279	187,202,218
1954.....	8,882,850	2,900,164	15,574,092	16,201,828	203,982,696

Clay Products.—The sales value of clay products produced in 1954 was the highest recorded. Common clays suitable for the production of building bricks and tile are found in all the provinces; production is greatest in Ontario and Quebec. Stoneware clays are produced largely from the Eastend and Willows areas in Saskatchewan and shipped to Medicine Hat, Alta., where, utilizing the cheap gas fuel, they are manufactured into stoneware, sewer pipe, pottery, tableware, etc. Stoneware clay also occurs in Nova Scotia and, although it has not been developed extensively for ceramic use, some is used for pottery. Two large plants and a few small plants manufacture fireclay refractories from domestic clay in British Columbia, Saskatchewan and Nova Scotia. Deposits of high-grade, plastic, white burning clays occur in northern Ontario and deposits yielding high-grade china clay have been found along the Fraser River in British Columbia but these have not been used on a commercial scale. Ball clays of high bond strength occurring in the white mud beds of southern Saskatchewan have not been developed to any extent.

27.—Value (Total Sales) of Clay Products Produced by Province 1945-54

NOTE.—Figures for 1926-44 are given in the 1946 Year Book, p. 356.

Year	New-foundland	Nova Scotia	New Brunswick	Quebec	Ontario
	\$	\$	\$	\$	\$
1945.....	...	433,455	232,783	2,534,630	3,107,189
1946.....	...	671,466	336,971	3,457,168	4,288,780
1947.....	...	752,126	381,184	4,257,423	5,289,528
1948.....	...	1,031,685	434,772	5,123,908	6,563,754
1949.....	25,450	1,053,845	515,767	5,580,421	7,435,439
1950.....	31,089	1,126,969	681,139	6,324,387	9,323,263
1951.....	32,183	1,202,428	740,861	6,776,430	10,484,341
1952.....	29,285	1,221,893	655,084	6,645,387	11,975,200
1953.....	39,500	1,234,319	620,769	8,070,942	14,829,222
1954.....	33,042	1,082,039	587,994	8,055,692	17,230,231
	Manitoba	Saskatchewan	Alberta	British Columbia	Canada
	\$	\$	\$	\$	\$
1945.....	269,917	271,288	1,401,875	661,955	8,913,092
1946.....	372,920	411,446	1,808,971	859,645	12,207,367
1947.....	392,518	495,016	1,771,250	1,147,144	14,486,189
1948.....	517,181	509,593	2,055,738	1,392,417	17,629,048
1949.....	514,705	545,588	1,603,199	707,295	17,981,709
1950.....	690,730	581,506	1,950,309	1,081,496	21,790,888
1951.....	673,698	616,655	1,787,731	1,213,329	23,527,656
1952.....	575,088	711,778	1,964,618	1,183,195	24,961,528
1953.....	568,477	742,959	2,135,085	1,536,458	29,777,731
1954.....	512,989	844,398	2,316,982	1,696,731	32,360,098

Cement.—The production of cement has almost doubled since 1947 and imports have also been relatively high during the same period. The largest production is in Quebec and Ontario although there are active plants in most of the provinces.

28.—Quantity and Value of Production, Imports, Exports and Apparent Consumption of Cement 1945-54

NOTE.—Figures for 1910-28 are given in the 1939 Year Book, p. 356, and for 1929-44 in the 1946 edition, p. 356.

Year	Production ¹		Imports		Exports		Apparent Consumption	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	bbl. ²	\$	bbl. ²	\$	bbl. ²	\$	bbl. ²	\$
1945.....	8,471,679	14,246,480	32,653	141,539	281,944	535,012	8,222,388	13,853,007
1946.....	11,560,483	20,122,503	350,057	1,098,532	114,370	236,276	11,796,170	20,984,759
1947.....	11,936,245	21,968,909	1,248,625	3,843,652	88,030	198,354	13,096,840	25,614,207
1948.....	14,127,123	28,264,987	1,120,671	3,995,173	72,999	200,575	15,174,795	32,059,585
1949.....	15,916,564	32,901,936	2,284,001	6,877,939	19,212	51,733	18,181,353	39,728,142
1950.....	16,741,826	35,894,124	1,386,219	3,788,981	23,909	111,351	18,104,136	39,571,754
1951.....	17,007,812	40,446,288	2,327,431	7,447,859	2,590	12,386	19,332,653	47,881,761
1952.....	18,520,538	48,059,470	2,913,981	9,068,181	4,305	20,686	21,430,214	57,106,955
1953.....	22,238,335	58,842,022	2,482,783	7,403,158	14,728	77,559	24,706,390	65,373,108
1954.....	22,437,477	59,035,644	2,292,200	6,316,890	123,645	496,058	24,606,032	64,738,465

¹ 'Production' as used here means quantity and value of sales.

² The barrel of cement equals 350 lb.

Sand, Gravel and Stone.—Deposits of sand and gravel are numerous throughout Eastern Canada with the exception of Prince Edward Island where gravels are scarce. The local needs for these materials are usually supplied from the nearest deposits as their cost to the consumer is governed largely by the length of the haul. This accounts for the large number of small pits and the small number of large plants. Every province except New Brunswick and Prince Edward Island produces natural bonded sand but some grades particularly suitable for certain industries demand a much higher price than ordinary sand. Quebec and Ontario contributed 74 p.c. of the total quantity of sand and gravel in 1952. The greater part of the output is used in road improvement, concrete works and railway ballast, and most of the commercial plants are equipped for producing crushed gravel, a product that can compete with crushed stone.

The stone industry has two main divisions, stone quarrying and the stone products industry. The granite, limestone, marble, sandstone and slate quarries of Canada yield high grade structural and decorative materials and also supply requirements for chemical and other allied industries. The gross value of stone of all varieties produced in Canada in 1954 totalled \$39,857,134 as compared with \$30,613,051 in 1953.

29.—Quantity and Value of Sand, Sand and Gravel, and Stone Produced 1952-54

Material and Purpose	1952		1953		1954	
	Quantity	Gross Value	Quantity	Gross Value	Quantity	Gross Value
	tons	\$	tons	\$	tons	\$
Sand—						
Moulding sand.....	23,434	65,625	20,675	61,222	18,331	48,544
For building, concrete, roads, etc.....	8,069,333	5,743,760	8,619,698	6,683,894	8,961,378	6,950,734
Other.....	712,224	389,606	506,765	248,622	374,704	136,395
Sand and Gravel—						
For railway ballast.....	7,122,550	2,403,865	8,436,245	3,032,939	6,083,110	2,433,413
For concrete, roads, etc.....	68,157,943	31,125,978	66,125,644	32,228,212	73,899,831	35,652,959
For mine filling.....	3,898,609	1,159,186	3,007,909	1,074,757	4,405,652	1,345,235
Crushed gravel.....	14,911,452	10,451,023	14,316,963	10,155,755	17,218,028	12,420,391
Totals, Sand and Gravel.....	102,895,545	51,339,043	101,033,949	53,485,401	110,961,034	58,987,671

29.—Quantity and Value of Sand, Sand and Gravel, and Stone Produced 1952-54 —concluded

Material and Purpose	1952		1953		1954	
	Quantity	Gross Value	Quantity	Gross Value	Quantity	Gross Value
	tons	\$	tons	\$	tons	\$
Stone—						
Building.....	109,205	4,229,790	118,233	4,270,095	134,718	5,071,852
Monumental and ornamental.....	11,948	1,045,429	16,398	974,757	18,424	1,483,344
Limestone for agriculture.....	466,817	1,203,345	515,223	1,251,850	364,296	935,020
Chemical Uses—						
Flux.....	1,221,345	1,651,115	1,401,808	1,703,846	1,177,128	1,500,407
Pulp and paper.....	456,522	1,310,368	408,969	1,158,977	461,981	1,384,391
Other.....	56,945	88,140	81,168	121,101	56,227	66,857
Rubble and riprap.....	1,977,855	2,435,767	1,199,162	1,873,574	10,469,944	6,975,942
Crushed.....	14,066,426	17,497,862	15,776,593	17,693,179	19,747,430	20,953,361
Totals, Stone¹.....	18,726,196	30,835,356	19,849,017	30,613,051	32,767,925	39,857,134

¹ Includes minor items not specified.

Section 5.—Industrial Statistics of the Mineral Industry

The scope of the annual statistics on mineral production published by the Dominion Bureau of Statistics includes a general review of the principal mineral industries such as the copper-gold, silver-lead-zinc, and nickel-copper industries as well as a section on metallurgical works. Additional data published at irregular intervals include such features as numbers of employees, wages and salaries paid and net value of sales.

The figures for 'net value of shipments' of industries given in Tables 30 and 31 are, in each table, the settlements received for shipments by producers and the additional values obtained when the smelting of ores is completed in Canada, less the cost of materials, fuel, etc. The totals indicate more nearly the actual returns to the different industries than do the values for the minerals in Table 2 of this Chapter where, with respect to copper, lead, zinc and silver, values are computed by applying the average prices for the year in the principal metal markets to the total production from mines and smelters with no reduction for fuel, electricity and other supplies consumed in the production process. Some imported ores and concentrates are treated in Canadian non-ferrous smelting and refining works, especially in the production of aluminum, where imported ore only is used, and of cobalt which comes mainly from African ores. The net sales of these plants include therefore the net value of the metals recovered from these imported ores and to this extent the net sales shown in Tables 30 and 31 include products of other than Canadian origin.

30.—Summary Statistics of the Mineral Industry by Province 1953 and 1954

Province or Territory	Plants or Mines	Em- ployees	Salaries and Wages	Purchased Fuel, Electricity and Process Supplies ¹	Net Value of Shipments ²
1953	No.	No.	\$	\$	\$
Newfoundland.....	903	4,541	15,567,726	9,197,691	22,003,003
Nova Scotia.....	540	13,037	39,236,701	15,676,633	53,075,567
New Brunswick.....	383	1,755	4,545,645	2,675,310	9,276,970
Quebec.....	4,059	33,095	113,001,528	309,922,593	298,136,878
Ontario.....	6,436	44,427	159,013,933	276,293,160	380,609,197
Manitoba.....	321	2,793	10,794,413	14,215,125	17,757,044
Saskatchewan.....	1,197	2,955	11,346,088	32,927,613	36,416,822
Alberta.....	5,598	11,313	37,555,287	13,447,286	236,186,969
British Columbia.....	1,008	14,488	53,928,687	120,727,933	111,129,794
Northwest Territories.....	41	791	3,686,321	1,634,300	8,675,331
Yukon Territory.....	22	843	4,389,189	4,053,895	8,279,670
Canada, 1953.....	20,508	130,038	453,065,518	800,771,539	1,181,547,245

For footnotes, see end of table.

30.—Summary Statistics of the Mineral Industry by Province 1953 and 1954—concluded

Province or Territory	Plants or Mines	Em- ployees	Salaries and Wages	Purchased Fuel, Electricity and Process Supplies ¹	Net Value of Shipments ²
	No.	No.	\$	\$	\$
1954					
Newfoundland.....	935	4,239	14,453,655	10,216,424	30,904,242
Nova Scotia.....	550	12,899	38,482,669	15,654,574	59,111,757
New Brunswick.....	453	1,930	5,080,813	2,772,067	9,992,761
Quebec.....	4,186	33,784	118,958,503	321,538,425	340,569,396
Ontario.....	6,389	44,872	166,924,014	293,563,436	406,749,120
Manitoba.....	551	2,831	10,885,823	11,428,724	26,672,764
Saskatchewan.....	1,597	3,607	15,181,543	19,041,068	57,903,741
Alberta.....	6,150	10,069	34,228,685	15,245,554	266,839,682
British Columbia.....	1,020	13,420	52,079,596	124,812,744	108,639,931
Northwest Territories.....	40	837	4,026,418	1,792,384	24,565,743
Yukon Territory.....	33	957	5,004,154	6,337,464	7,949,599
Canada, 1954.....	21,904	129,445	465,305,873	822,402,864	1,339,898,736

¹ Includes freight and smelter charges and cost of ores treated.
process supplies, fuel, electricity, freight and smelter charges.

² Gross value of shipments less cost of

A summary of the industrial statistics of the principal mineral industries operating in Canada in the years 1950 to 1954 is presented in Table 31.

31.—Summary Statistics of the Principal Mineral Industries 1950-54

Industry and Year	Plants or Mines	Em- ployees	Salaries and Wages	Purchased Fuel, Electricity and Process Supplies ¹	Net Value of Shipments ²	
	No.	No.	\$	\$	\$	
Metallics.....	1950	570	67,560	200,778,560	575,537,191	547,636,698
	1951	589	75,085	246,327,167	741,012,719	669,801,701
	1952	636	79,946	285,647,255	728,351,641	643,848,728
	1953	574	76,826	285,940,984	713,345,667	643,620,543
	1954	715	77,647	297,792,840	734,303,351	744,264,529
Alluvial gold.....	1950	58	411	1,598,875	532,348	3,612,183
	1951	47	362	1,553,103	621,174	2,951,342
	1952	39	361	1,638,672	518,778	2,662,952
	1953	56	306	1,372,504	259,011	1,878,310
	1954	62	351	1,619,460	476,627	2,575,038
Auriferous quartz.....	1950	281	22,491	64,533,114	35,204,245	108,840,362
	1951	211	22,126	68,739,531	36,643,949	100,059,503
	1952	216	20,757	69,004,828	34,912,550	100,083,506
	1953	173	18,751	60,920,362	30,973,120	91,408,605
	1954	157	18,479	63,578,156	32,017,855	95,627,104
Copper-gold-silver.....	1950	56	7,554	23,489,366	38,671,894	83,181,924
	1951	82	6,223	21,545,660	30,830,233	92,331,995
	1952	98	7,210	26,711,225	34,998,574	80,668,817
	1953	84	7,476	27,582,448	31,970,373	68,881,908
	1954	118	7,837	29,791,332	35,079,924	70,814,052
Silver-cobalt.....	1950	20	364	883,281	631,933	2,308,213
	1951	22	514	1,406,783	899,494	3,640,348
	1952	19	696	2,161,894	1,213,660	3,556,975
	1953	14	739	2,204,274	1,387,416	3,235,991
	1954	15	808	2,614,266	1,191,243	4,103,256
Silver-lead-zinc.....	1950	112	5,939	17,632,755	36,872,621	85,845,870
	1951	168	9,324	30,380,859	53,783,766	131,009,215
	1952	177	10,331	37,643,614	60,189,782	104,937,002
	1953	143	7,144	28,695,473	55,904,834	67,898,350
	1954	124	6,386	24,847,011	58,178,798	78,077,960

For footnotes, see end of table, p. 549.

31.—Summary Statistics of the Principal Mineral Industries 1950-54—continued

Industry and Year	Plants or Mines	Em- ployees	Salaries and Wages	Purchased Fuel, Electricity and Process Supplies ¹	Net Value of Shipments ²
	No.	No.	\$	\$	\$
Metallics—concl.					
Nickel-copper.....1950	10	7,713	25,313,838	7,914,476	46,028,054
1951	11	9,831	34,974,971	10,182,069	54,170,666
1952	22	10,820	42,151,955	12,046,000	59,694,630
1953	32	11,511	47,596,673	16,199,809	64,973,869
1954	37	11,244	48,142,987	19,576,040	74,891,033
Miscellaneous metals.....1950	16	3,225	8,578,969	8,538,649	15,108,311
1951	31	3,891	12,251,755	9,708,893	21,765,843
1952	47	5,163	18,370,772	14,119,614	25,523,464
1953	54	5,784	23,023,639	15,940,190	35,136,282
1954	180	6,494	24,603,658	17,241,822	66,138,130
Smelting and refining.....1950	17	19,863	58,748,362	447,171,025	202,711,781
1951	17	22,814	75,474,505	598,343,141	262,972,789
1952	18	24,608	87,964,295	570,352,683	266,721,382
1953	18	25,115	94,545,611	560,710,914	310,207,228
1954	22	26,048	102,595,970	570,541,042	352,037,956
Non-metallics (excluding Fuels).....1950	200	10,116	25,333,806	17,498,480	76,699,807
1951	197	10,611	31,034,773	22,219,341	91,943,071
1952	196	11,247	36,002,097	22,922,666	93,919,971
1953	210	11,099	36,891,610	23,208,288	96,771,684
1954	207	10,892	37,878,138	23,474,927	98,626,771
Asbestos.....1950	19	5,552	15,848,829	10,267,587	55,640,809
1951	24	5,923	20,024,288	13,073,794	68,550,215
1952	23	6,318	23,625,431	13,137,225	76,158,201
1953	24	6,482	24,567,463	14,088,699	71,990,225
1954	25	6,563	24,850,100	14,054,972	72,386,464
Feldspar, quartz and nepheline syenite..1950	36	476	1,056,129	467,968	2,553,587
1951	33	532	1,402,294	741,571	3,184,952
1952	34	426	1,251,943	660,344	3,044,081
1953	33	431	1,358,308	635,037	3,375,154
1954	29	377	1,193,766	554,188	3,107,993
Gypsum.....1950	13	1,004	2,412,698	1,775,427	4,935,137
1951	13	1,018	2,648,803	2,160,584	3,720,962
1952	14	1,061	2,979,091	2,361,683	4,176,391
1953	14	954	2,891,848	2,059,208	5,340,676
1954	14	932	2,929,829	2,166,490	4,929,289
Iron oxides.....1950	6	44	70,404	37,360	225,272
1951	5	43	87,283	42,425	219,852
1952	4	45	93,423	41,867	153,055
1953	4	37	83,095	42,843	152,958
1954	3	31	67,564	35,985	150,871
Mica.....1950	26	100	136,727	47,388	205,223
1951	31	138	182,033	32,728	414,922
1952	28	115	168,176	34,814	159,292
1953	44	105	152,284	26,351	134,777
1954	32	44	59,194	13,932	71,207
Peat (moss and fuel).....1950	39	1,118	1,530,866	767,110	2,101,092
1951	37	859	1,247,619	831,434	2,318,010
1952	36	1,042	1,601,825	932,940	2,324,417
1953	36	955	1,579,715	984,997	2,447,096
1954	40	880	1,736,002	1,140,795	2,824,777
Salt.....1950	13	643	1,521,593	2,180,610	5,919,503
1951	12	689	1,633,222	2,569,376	6,631,889
1952	12	651	1,907,219	3,060,246	5,995,833
1953	12	676	1,957,318	2,826,033	5,579,756
1954	13	669	2,067,424	2,702,731	7,151,404
Talc and soapstone.....1950	6	58	116,547	66,775	297,860
1951	3	50	109,522	62,955	242,383
1952	3	54	117,144	74,194	228,924
1953	3	54	132,934	63,315	245,182
1954	4	53	134,437	100,754	288,294

For footnotes, see end of table, p. 549.

31.—Summary Statistics of the Principal Mineral Industries 1950-54—concluded

Industry and Year	Plants or Mines	Em- ployees	Salaries and Wages	Purchased Fuel, Electricity and Process Supplies ¹	Net Value of Shipments ²
	No.	No.	\$	\$	\$
Non-metallies (excluding Fuels)—concl.					
Miscellaneous non-metal ³	1950 42	1,121	2,640,013	1,888,255	4,821,324
	1951 39	1,359	3,699,789	2,704,474	6,209,886
	1952 42	1,535	4,257,845	2,619,353	6,679,777
	1953 40	1,405	4,168,645	2,481,805	7,505,860
	1954 47	1,343	4,839,822	2,705,080	7,716,472
Fuels.....	1950 8,203	28,453	74,491,043	16,365,197	184,815,362
	1951 9,061	28,490	81,137,981	19,932,844	212,162,943
	1952 10,236	28,029	87,935,137	23,709,842	232,767,209
	1953 11,435	26,766	83,854,023	23,951,642	290,107,746
	1954 12,357	24,807	78,271,162	22,931,832	329,809,609
Coal.....	1950 363	23,418	60,938,980	14,464,916	95,675,483
	1951 315	22,647	63,127,966	16,547,467	92,491,368
	1952 271	21,754	66,028,224	18,959,228	92,066,921
	1953 241	19,847	59,350,290	18,146,436	84,575,439
	1954 223	18,050	53,650,045	15,631,307	80,968,959
Natural gas.....	1950 3,991	2,618	5,703,524	186,180	6,258,035
	1951 3,985	2,658	6,491,234	174,884	6,516,339
	1952 4,132	2,573	7,296,092	336,666	6,517,385
	1953 3,688	2,769	8,073,532	337,277	5,519,224
	1954 3,572	2,887	8,864,662	356,404	7,930,405
Petroleum.....	1950 3,849	2,417	7,848,539	1,714,101	82,881,844
	1951 4,761	3,185	11,518,781	3,210,493	113,155,236
	1952 5,833	3,702	14,610,821	4,413,948	135,182,903
	1953 7,506	4,150	16,430,201	5,467,929	199,013,083
	1954 8,562	3,870	15,756,455	6,944,121	240,910,245
Structural Materials.....	1950 8,122	14,259	32,841,288	29,339,381	105,809,057
	1951 8,310	14,685	38,661,612	32,867,997	121,631,028
	1952 8,889	14,894	43,391,662	35,466,899	136,918,411
	1953 8,289	15,347	46,378,901	40,265,942	151,047,272
	1954 8,625	16,099	51,363,733	41,692,754	167,197,827
Clay products.....	1950 134	3,663	8,583,912	4,655,254	17,135,634
	1951 129	3,737	9,731,657	5,208,555	18,319,101
	1952 133	3,568	9,812,214	5,116,848	19,844,680
	1953 125	3,719	10,833,628	5,642,817	24,134,914
	1954 125	3,929	12,112,490	6,023,812	26,336,286
Cement.....	1950 8	1,781	5,235,735	15,109,409	23,091,104
	1951 10	1,931	6,242,900	16,392,344	26,631,501
	1952 11	2,239	7,849,057	18,365,676	32,664,254
	1953 11	2,391	8,873,694	21,799,652	40,428,272
	1954 12	2,575	9,802,707	22,243,820	39,953,127
Lime.....	1950 43	1,133	2,760,960	4,052,688	8,774,233
	1951 44	1,096	3,053,802	4,279,967	10,390,230
	1952 42	1,005	3,145,246	4,435,054	9,784,399
	1953 42	1,057	3,278,434	4,608,887	10,600,220
	1954 40	1,012	3,349,881	4,678,017	10,810,714
Sand and gravel.....	1950 7,348	4,120	8,712,440	1,907,445	34,527,314
	1951 7,591	4,060	10,414,559	2,309,809	42,317,750
	1952 8,210	4,185	12,354,505	2,673,245	48,665,798
	1953 7,623	4,377	13,253,953	3,626,252	49,959,149
	1954 7,891	4,437	13,717,851	3,084,875	55,902,796
Stone.....	1950 589	3,562	7,548,241	3,614,585	22,280,772
	1951 536	3,861	9,218,694	4,677,322	23,972,446
	1952 493	3,897	10,230,640	4,876,076	25,959,280
	1953 488	3,803	10,139,192	4,688,334	25,924,717
	1954 557	4,146	12,380,804	5,662,230	34,194,904
Grand Totals.....	1950 17,095	120,388	333,444,697	638,740,249	914,960,924
	1951 18,157	128,871	397,161,533	816,632,901	1,095,088,743
	1952 19,957	134,116	452,976,151	810,451,048	1,112,454,319
	1953 20,508	130,038	453,065,518	800,771,539	1,181,547,245
	1954 21,904	129,445	465,305,873	822,402,864	1,339,898,736

¹ Includes freight and smelter charges and cost of ores treated.
process supplies, fuel, electricity, freight and smelter charges.² Gross value of shipments less cost of
³ Includes natural abrasives.

Section 6.—World Production of Certain Metallic Minerals and Fuels

Table 32 shows the production of certain metallic minerals and fuels in the different countries of the world for the year 1953. These figures are taken from the *United Nations Statistical Yearbook 1954* which presents production figures for 1934-53 for a much more extensive list of mining and quarrying industries. The 1953 figures are provisional and have been converted from kilograms to ounces troy for gold and from metric tons to short tons for the other metals and fuels shown.

32.—World Production of Certain Metallic Minerals and Fuels 1953^p

NOTE.—Where dashes occur throughout this table they indicate that no figures were given in the *United Nations Statistical Yearbook*, either because there was no production or because the quantity was not available.

Country	Gold	Silver	Copper	Iron	Lead	Zinc	Coal	Crude Petroleum
	'000 oz. t.	'000 oz. t.	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons
Algeria.....	—	—	—	1,929.0	8.2	17.1	325.2	93.6
Angola.....	—	—	2.2	—	—	—	—	—
Argentina.....	—	897.0	—	—	20.9	17.7	90.8	4,497.4
Australia.....	1,075.4	12,538.8	36.9	2,387.6	293.9	265.4	20,640.8	—
Austria.....	—	—	3.4	953.5	6.2	6.5	178.6	3,306.9
Bahrain.....	—	—	—	—	—	—	—	1,654.6
Bechuanaland.....	1.1	—	—	—	—	—	—	—
Belgian Congo.....	371.0 ¹	4,951.2	236.0 ²	—	—	138.7	347.2	—
Belgium.....	—	—	—	38.6	—	—	33,135.5	—
Bolivia.....	22.9 ^{3,4}	6,111.8 ³	5.0 ³	—	26.2 ³	26.5 ³	—	86.1
Brazil.....	115.0	—	—	—	—	—	2,237.7	133.6
British Guiana.....	17.4	—	—	—	—	—	—	—
British West Africa ⁵	—	45.0	—	—	—	—	—	—
Brunei.....	—	—	—	—	—	—	—	5,374.9
Burma.....	—	578.7	—	—	10.7	8.4	—	156.5
Cameroons, French.....	1.0	—	—	—	—	—	—	—
Canada.....	4,068.5	23,424.4	251.7	3,575.9⁶	197.2	398.8	13,874.8	12,112.2
Chile.....	130.7	1,498.2	400.2	1,899.3	—	—	2,575.0 ⁷	180.8
China ⁸	24.8	—	—	—	—	—	2,637.8	2.8
Colombia.....	436.0	119.0	—	—	—	—	469.6 ⁹	6,012.0
Cuba.....	—	—	17.9	151.0	—	—	—	1.0
Cyprus.....	—	—	19.0	—	—	—	—	—
Czechoslovakia.....	—	—	—	937.0	—	—	22,376.9	148.8
Ecuador.....	29.2	86.8	—	—	0.1	—	—	431.0
Egypt.....	14.3	—	—	—	—	—	—	2,591.5
El Salvador.....	19.9	347.2	—	—	—	—	—	—
Fiji.....	76.9	—	—	—	—	—	—	—
Finland.....	19.5	234.7	25.7	—	0.4	11.6	—	—
France.....	48.7	482.3	0.2	15,189.8	13.8	12.7	57,968.3 ¹⁰	427.5
French Equatorial Africa.....	54.2	—	—	—	5.3	—	—	—
French Guiana.....	4.9	—	—	—	—	—	—	—
French West Africa.....	1.6	—	—	—	—	—	—	—
Germany.....	—	—	2.3	3,743.4	69.3	100.5	141,704.3	2,413.0
Gold Coast.....	731.0	—	—	—	—	—	—	—
Greece.....	—	73.9	—	48.5	4.4	5.7	—	—
Honduras.....	47.5 ³	—	—	—	1.5	—	—	—
Hong Kong.....	—	—	—	61.7	—	—	—	—
Hungary.....	—	—	—	—	—	—	2,314.9	914.9
India ¹¹	222.9	16.1	—	2,554.1	—	—	40,148.4	—
Indonesia.....	—	—	—	—	—	—	988.8	11,271.1
Iran.....	—	—	—	—	—	—	165.3 ¹²	1,482.6
Iraq.....	—	—	—	—	—	—	—	30,514.2
Ireland.....	—	—	—	—	—	—	201.7	—
Italy.....	12.2	832.7	0.2	541.2	45.6	110.9	1,246.7	94.2
Japan.....	258.2	8,012.0	64.9	1,008.6	20.6	106.5	51,291.6	313.1
Kenya.....	9.6	—	—	—	—	—	—	—
Korea.....	15.6	51.4	0.8	9.9	0.1	—	954.6 ⁷	—
Kuwait.....	—	—	—	—	—	—	—	47,697.0
Liberia.....	—	—	—	984.4 ¹³	—	—	—	—
Luxembourg.....	—	—	—	2,371.1	—	—	—	—
Madagascar.....	1.6	—	—	—	—	—	—	—
Malaya, Federation of.....	16.8	—	—	761.7	—	—	—	—
Mexico.....	483.6	47,885.3	66.2	411.2	244.2	249.7	1,578.5	11,424.4

For footnotes, see end of table, p. 551.

32.—World Production of Certain Metallic Minerals and Fuels 1953^p—concluded

Country	Gold	Silver	Copper	Iron	Lead	Zinc	Coal	Crude Petroleum
	'000 oz. t.	'000 oz. t.	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons
Morocco—	—	—	—	—	—	—	—	—
French.....	—	—	—	256.8	88.5	38.9	622.8	113.1
Spanish.....	—	—	—	664.7	0.7 ³	—	—	—
Mozambique.....	1.2	—	—	—	—	—	178.2	—
Netherlands.....	—	—	—	—	—	—	13,555.1	903.9
New Guinea.....	120.6	57.9	—	—	—	—	—	288.8
New Zealand.....	38.6	77.2	—	1.3	—	—	866.4	—
Nicaragua.....	266.8	—	—	—	—	—	—	—
Nigeria.....	0.7	—	—	—	0.1	—	783.7	—
Northern Rhodesia.....	3.3	514.4	406.1	—	12.9	28.3	—	—
Norway.....	—	106.1	14.2	900.6 ¹⁴	0.6	5.8	469.6	—
Pakistan.....	—	—	—	—	—	—	648.2 ⁷	213.8
Papua.....	0.3	—	—	—	—	—	—	—
Peru.....	140.2	19,650.5	37.9	—	135.5	147.8	300.9	2,351.2
Philippines.....	479.9	—	14.0	751.8	2.7	—	170.7	—
Poland.....	—	—	—	—	—	—	97,664.8	275.6
Portugal.....	14.9	—	2.9	—	1.8	—	526.9	—
Qatar.....	—	—	—	—	—	—	—	4,477.6
Romania.....	—	—	—	335.1	—	—	440.9	9,920.8
Saar.....	—	—	—	—	—	—	18,097.7	—
Sarawak.....	0.5	—	—	—	—	—	—	51.8
Saudi Arabia.....	81.6	—	—	—	—	—	—	45,385.5
Sierra Leone.....	1.4	—	—	934.8	—	—	—	—
Southern Rhodesia.....	501.1	83.6	—	38.3	—	—	2,885.9	—
South-West Africa.....	—	—	13.4	—	65.3	17.4	—	—
Spain.....	—	1,450.0	—	1,679.9	60.4	92.3	13,441.6	—
Surinam.....	6.1	—	—	—	—	—	—	—
Sweden.....	—	—	16.0	11,155.4	27.6	47.4	314.2	—
Switzerland.....	—	—	—	57.3	—	—	—	—
Tanganyika.....	69.9 ³	—	—	—	—	—	—	—
Trinidad.....	—	—	—	—	—	—	—	3,524.1
Tunisia.....	—	—	—	620.6	26.5	4.0	—	—
Turkey.....	—	—	26.2 ²	347.2	4.9	4.4	6,232.5	29.2
Uganda.....	0.4	—	—	—	—	—	—	—
Union of South Africa.....	11,940.6	1,176.7	38.4	1,353.6	0.5	—	31,372.9	—
USSR.....	—	—	—	—	—	—	352,739.5 ⁷	57,871.3
United Kingdom.....	—	—	—	4,959.3	7.4	3.2	251,097.6 ¹⁵	178.6
United States of America.....	1,970.0 ¹⁶	37,735.3 ¹⁶	926.4	66,204.8 ¹⁷	341.8	547.4	481,153.2	351,558.6
Venezuela.....	27.2	—	—	1,620.4	—	—	32.4	103,869.7
Vietnam.....	—	—	—	—	—	—	917.1	—
Yugoslavia.....	36.6	3,047.9	38.9	421.1	93.9	66.1	1,019.6	189.3

¹ Includes Ruanda-Urundi. ² Smelter production. ³ Exports. ⁴ Includes purchases by the Central and Mining Banks. ⁵ Consists of the Gold Coast, Nigeria and Sierra Leone. ⁶ Shipments.
⁷ Includes lignite. ⁸ Formosa only. ⁹ Only coal transported by rail. ¹⁰ Excludes the Saar.
shown separately. ¹¹ Excludes Burma and Pakistan, shown separately. ¹² Fiscal year beginning Mar. 20, 1953. ¹³ Fiscal year ended Aug. 31, 1953. ¹⁴ Includes ferro-titanium. ¹⁵ Great Britain only. Excludes coal produced at quarries but includes open-cast coal. ¹⁶ Includes Alaska. ¹⁷ Excludes manganese iron ores.

CHAPTER XII.—POWER GENERATION AND UTILIZATION

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Section 1.—Water Power Resources and Their Development*

Canada, a land of many lakes and rivers, has been abundantly endowed by nature with great water power resources which are well distributed across the country. In most sections adequate precipitation and favourable topography result in numerous rivers on which falls and rapids frequently occur and offer excellent opportunities for the development of hydraulic power; with the exception of the prairies of the middle west, water power resources of importance are found in virtually every part of the country. In British Columbia, where precipitation is high, the rivers flowing down the Pacific slope of the Rocky Mountains offer many fine power sites. Alberta, although a prairie province, also has mountain streams from the Rockies and great reserves of undeveloped power on its large northern rivers. The Canadian Shield of Precambrian rock, which forms an arc around Hudson Bay, covers a portion of the Northwest Territories and northern Saskatchewan as well as a large part of Manitoba, Ontario, Quebec and Labrador; it is a rough, forest covered, well watered area characterized by innumerable lakes and by rivers with many falls and rapids. The water power of the Great Lakes-St. Lawrence River System forms part of the vast resources of Ontario and Quebec upon which their status as the principal manufacturing provinces of Canada is dependent and which compensate in large degree for the lack of indigenous coal. In New Brunswick, Nova Scotia and on the Island of Newfoundland precipitation is moderately heavy and the rivers, though not large, afford numerous possibilities for power developments of moderate size. In Labrador the potential resources of the Hamilton River are outstanding.

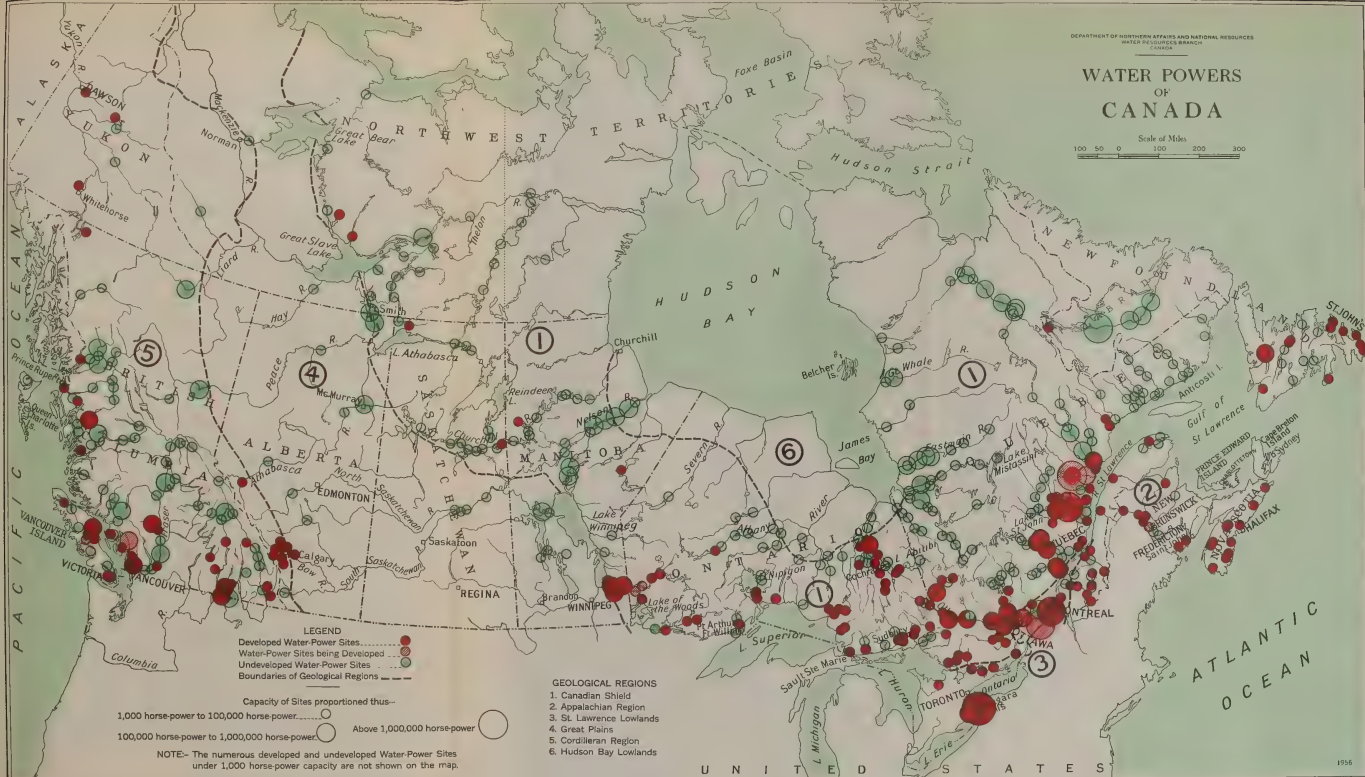
An accurate comparison of Canada's water power resources and their development with those of other countries† is not possible owing to incomplete world statistics and differing bases of tabulation. However from figures available at the end of 1953 it appears that Canada ranks second among the countries of the world in total installed capacity, being exceeded only by the United States; in installation per thousand population Canada

* Revised in the Water Resources Division, Department of Northern Affairs and National Resources, Ottawa.

† More detailed information on the water power resources of other countries is given in the 1951 Year Book, pp. 531-533.

WATER POWERS OF CANADA

Scale of Miles
100 50 0 100 200 300



is exceeded only by Norway. Canada is in approximately fifth place in potential power resources but, on the whole, those resources are more readily available to prospective markets than are those of other countries that outrank Canada, an exception being the United States. In particular might be mentioned the enormous potential resources of the great river systems of Africa and Asia.

Subsection 1.—Available and Developed Water Power in Canada

Table 1 gives a summary of the water power resources of Canada and their development as at Dec. 31, 1955.

1.—Available and Developed Water Power by Province as at Dec. 31, 1955

Province or Territory	Available 24 Hour Power at 80 p.c. Efficiency		Turbine Installation ¹
	At Ordinary Minimum Flow	At Ordinary Six Months Flow	
	h.p.	h.p.	h.p.
Newfoundland.....	958,500	2,754,000	329,150
Prince Edward Island.....	500	3,000	1,882
Nova Scotia.....	25,500	156,000	177,018
New Brunswick.....	123,000	334,000	164,130
Quebec.....	10,890,000	20,445,000	7,795,657
Ontario.....	5,407,000	7,261,000	5,367,866
Manitoba.....	3,333,000	5,562,000	796,900
Saskatchewan.....	550,000	1,120,000	109,835
Alberta.....	508,000	1,258,000	284,010
British Columbia.....	7,023,000	10,998,000	2,271,460
Yukon and Northwest Territories.....	382,500	814,000	33,240
Canada.....	29,207,000	50,705,000	17,511,148

¹ Includes water wheels and hydraulic turbines installed.

The figures given in the first and second columns of Table 1 represent 24 hour power and are based upon rapids, falls and power sites of which the actual drop, or the head of possible concentration, has been measured or at least carefully estimated. Tabulations of potential power in Canada are not complete as many unrecorded rapids and falls of undetermined power capacity exist on rivers and streams throughout the country, particularly in the less explored northern districts. Apart from areas where definite studies have been carried out and the results recorded no consideration has been given to the power concentrations that are feasible on rivers and streams of gradual gradient where economic heads possibly may be created by the construction of dams. Thus the figures in Table 1 of available power, under the two conditions of stream flow, represent only the *minimum* water power possibilities of Canada.

The third column of the table gives the total capacity of the water wheels actually installed and should not be placed in direct comparison with those in the first and second columns to deduce the percentage of the available developed water power resources. At developed sites, the water wheel installation averages 30 p.c. greater than the corresponding calculated maximum available power at the same sites. Figures of Table 1 therefore indicate that the *at present recorded* water power resources will permit of a turbine installation of nearly 66,000,000 h.p. and that the turbine installation at Dec. 31, 1955 represents less than 27 p.c. of recorded water power resources.

The development of Canada's water power resources is a good index of the country's industrial growth and of the change in its economic life. In 1900, prior to the inception of long distance transmission of electricity, Canada's economy was based largely on agriculture and the total of hydraulic installations (mostly small mills) was only 173,000 h.p.

After the successful solution of the problems of transmission of electric energy for use in distant communities the development of large hydraulic projects became practicable and by 1910 total installation had risen to 977,000 h.p. In ensuing decades the growth in installed capacity, partly speeded by war demands, proceeded at an accelerated rate.

The figures in Table 2, and the graph on p. 555, show clearly the consistent growth in the total capacity of hydraulic installations since 1900. The average annual increase from 1900-05 was about 56,000 h.p., a rate that was stepped up sharply in subsequent years because of improvements in the transmission of electricity and the building of large central electric stations. The period 1906-22 saw development proceed at the fairly uniform rate of 150,000 h.p. per annum. The heavier demand for electricity during the prosperous 1920's increased the rate of installation sharply in 1923 and it continued at about 377,000 h.p. per annum from 1923 to 1935. As an aftermath to the economic depression, the rate of installation was low during the years 1936-39, whereas the power required for war purposes accounted for the high average rate of increase of 481,000 h.p. per annum during the period 1940-43. Few developments were undertaken in the later war years or in the immediate postwar period so that only a small amount of new capacity came into operation in the 1944-47 period. However the results of the later postwar program of construction are apparent in the large growth in the years 1948-55 when the average rate was about 906,000 h.p. per annum. Present programs of expansion indicate a continuation of this rate of growth for some years.

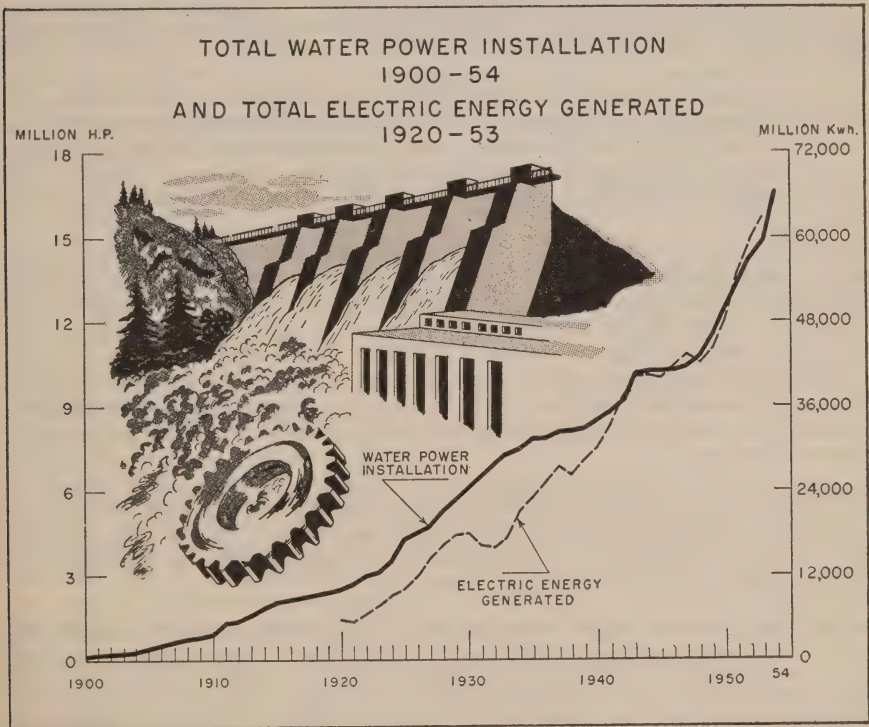
2.—Hydraulic Turbine Horsepower Installed by Province as at Dec. 31, Decennially 1900-50 and Annually 1951-55

NOTE.—Figures for each year 1900-30 are given in the 1939 Year Book, p. 362, for 1931-39 in the 1946 edition, p. 362, and for 1940-49 in the 1954 edition, pp. 556-557.

Year	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.
1900.....	—	1,521	19,810	4,601	82,864	53,876
1910.....	—	1,760	31,476	11,197	334,763	490,821
1920.....	—	2,233	37,623	21,976	955,090	1,057,422
1930.....	—	2,439	114,224	133,681	2,718,130	2,088,055
1940.....	—	2,617	139,217	133,347	4,320,943	2,597,595
1950.....	262,810	2,299	150,960	133,111	6,372,812	3,513,840
1951.....	279,160	2,299	150,960	132,911	6,755,351	3,718,505
1952.....	292,660	2,299	162,455	135,511	7,263,621	3,948,466
1953.....	311,150	1,900	162,433	164,130	7,719,122	4,006,686
1954.....	323,150	1,882	170,908	164,130	7,773,822	4,845,486
1955.....	329,150	1,882	177,018	164,130	7,975,657	5,367,866
	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.	Canada
	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.
1900.....	1,000	—	280	9,366	5	173,323
1910.....	38,800	30	655	64,474	3,195	977,171
1920.....	85,325	35	33,122	309,534	13,199	2,515,559
1930.....	311,925	42,035	70,532	630,792	13,199	6,125,012
1940.....	420,925	90,835	71,997	788,763	18,199	8,584,438
1950.....	595,200	111,835	107,225	1,284,208	28,450	12,562,750
1951.....	596,400	111,835	207,825	1,358,808	28,450	13,342,504
1952.....	716,900	111,835	207,825	1,432,858	31,450	14,305,880
1953.....	716,900	109,835	207,960	1,496,518	32,440	14,929,074
1954.....	756,900	109,835	258,710	2,246,868	32,440	16,684,131
1955.....	796,900	109,835	284,010	2,271,460	33,240	17,511,148

The availability of large amounts of hydro-electric energy has so fostered the economical utilization of the natural products from land, forest and mine that Canada is rapidly becoming highly industrialized. Low cost power is fundamental in meeting the enormous requirements of the pulp and paper industry—Canada's largest industry and one of the world's great industrial enterprises; it also allows economical mining, milling and refining of base and precious metals and facilitates their fabrication into a multitude of manufactured articles. Canada's outstanding industrial growth in the postwar period has been made in conjunction with accelerated development of water power resources. From hydro-electric plants ranging in capacity from a few hundred to more than 1,000,000 h.p., networks of transmission line carry power to most urban centres and to an increasing number of rural districts. This wide distribution of power has facilitated the decentralization of industry, enabling manufacturing processes to be carried on in many of the smaller centres of population. Economical domestic electrical service also contributes in no small measure to the high standard of living in Canada.

The total of 17,511,148 h.p. of installed capacity of water power plants in 1955 produced about 81,750,000,000 kwh. of energy. Assuming a working year of 275 eight-hour days, and accepting that the working capacity of a manual worker equals 1/10 h.p., the total energy produced from water power in 1954 represents the equivalent of the output of about 495,000,000 labourers.



In the Chart above, "Total Electric Energy Generated" refers to the total of Central Electric Station energy production and excludes energy produced for own use by the pulp and paper and other industries.

Table 3 shows, under three classifications, the purposes for which the developed water power is primarily utilized.

3.—Developed Water Power by Province and Industry as at Dec. 31, 1955

Province or Territory	Turbine Installation			Total ⁴
	In Central Electric Stations ¹	In Pulp and Paper Mills ²	In Other Industries ³	
	h.p.	h.p.	h.p.	h.p.
Newfoundland.....	132,850	182,300	14,000	329,150
Prince Edward Island.....	369	—	1,513	1,882
Nova Scotia.....	162,005	10,337	4,676	177,018
New Brunswick.....	134,700	23,872	5,558	164,130
Quebec.....	7,569,853	350,344	55,460	7,975,657
Ontario.....	5,053,517	223,507	80,842	5,367,866
Manitoba.....	795,000	—	1,900	796,900
Saskatchewan.....	109,800	—	35	109,835
Alberta.....	281,950	—	2,060	284,010
British Columbia.....	1,069,840	141,270	1,060,350	2,271,460
Yukon and Northwest Territories.....	13,540	—	19,700	33,240
Canada.....	15,333,424	931,630	1,246,094	17,511,148
Percentages of total installation.....	87.6	5.3	7.1	100.0

¹ Includes only hydroelectric stations that develop power for sale.

² Includes only water power *actually developed* by pulp and paper companies.

³ Includes only water power *actually developed* by industries other than central electric stations and the pulp and paper industries.

⁴ Includes water wheels and hydraulic turbines installed.

Central electric station classification totalling 15,333,424 h.p. represents 88 p.c. of the total developed water power as at Dec. 31, 1955. In 1900 the corresponding percentage was 33.5, thus showing the tremendous growth in central electric station installations since the inception of successful long distance transmission of electricity. Central hydro-electric stations produced 96 p.c. of all electricity sold in or exported from Canada during 1955.

The pulp and paper turbine installation total of 931,630 h.p. includes only water power *actually developed* and directly used by pulp and paper companies. In addition this industry is the greatest purchaser of central electric station power, buying nearly 17 p.c. of all power sold for industrial purposes in 1954. Part of the purchased power is classed as secondary, being used for steam generation by electric boilers.

The 'other industries' group develops 1,246,094 h.p. solely for its own use. These diversified industries also provide a broad market for the power sold by the central electric stations, as the amount of power produced by these industries represents only a part of the power they use.

The figure of total hydraulic installation in Canada, 17,511,148 h.p. is the cumulative total of all existing installations of water wheels and hydraulic turbines irrespective of whether or not the equipment has been in use during the year. It has been adjusted to Dec. 31, 1955 by the inclusion of new installations completed during the year and by deletion of those old units which were dismantled.

Subsection 2.—Water Power Developments in the Provinces and Territories 1954

In 1954 all records were broken for the amount of new hydro-electric generating capacity brought into operation in Canada during a period of one year, when capacity totalling 1,758,450 h.p. was completed. This may be compared with the previous high of 1952 when 1,066,250 h.p. was brought into service. New plants and extensions under construction for operation in 1955 total approximately 1,000,000 h.p. and those planned for operation in later years about 2,500,000 h.p. The building of new thermal electric

plants or extensions was also active and, in the field of power distribution, new main transmission lines were completed or under construction in many parts of the country, including submarine cables across the lower St. Lawrence River and across the Strait of Georgia. Over-all progress in the provinces, principally covering hydro-electric development, is outlined below.

Atlantic Provinces.—In *Newfoundland* the Iron Ore Company of Canada completed in June its development of 12,000 h.p. in two units under 34 foot head at Menihek Rapids on the Ashuanipi River, a tributary of the Hamilton River in Labrador. The plant is designed for two additional units when required. The Union Electric Light and Power Company Limited was actively engaged on the construction of a development on the Trinity River near Trinity. Initially the plant will consist of one unit of 2,000 h.p. under 260 foot head to be completed in September 1955 but provision is being made for an ultimate second unit. The United Towns Electric Company Limited is planning the development of 2,000 h.p. under 250 foot head on New Chelsea Brook near New Chelsea, construction to begin in 1955.

In *Nova Scotia* the Nova Scotia Light and Power Company Limited completed its 9,000 h.p. development in one unit under 400 foot head on the Nictau River near Middleton. An old development of 400 h.p. at this location was dismantled. The Nova Scotia Power Commission carried out active construction on a new development of 6,000 h.p. in two units under 22 foot head on the Mersey River at Lower Great Brook for operation in 1955.

In *New Brunswick* the New Brunswick Electric Power Commission, in connection with the development of the Beechwood site on the St. John River, called tenders for the relocation of a two mile reach of the Canadian Pacific Railway line and about one mile of Highway No. 2 between McAdam and Edmundston. The plant will consist initially of two units each of 45,000 h.p. under 60 foot head, with provision for a third unit when required; operation is scheduled for 1957.

Steam Plant Construction.—In addition to water power development the Newfoundland Light and Power Company Limited has under construction a new steam plant of 10,000 kw. at St. John's for 1956 operation, with provision for a second unit when required. The Nova Scotia Light and Power Company Limited has under construction a unit of 24,000 kw. in its steam plant at Halifax and the Nova Scotia Power Commission a unit of 20,000 kw. at Trenton. The Seaboard Power Corporation completed in March 1954 an addition of a 18,750 kw. unit in its steam plant at Glace Bay and is adding a similar unit for operation in March 1955. The New Brunswick Electric Power Commission is adding a 22,000 kw. unit to its steam plant at Chatham, scheduled for completion in September 1956. Campbellton completed an addition of 1,360 kw. to its municipal fuel electric station. The City of Edmundston is adding a diesel unit of 1,700 kw. to its plant, scheduled for operation in February 1955.

Quebec.—The Quebec Hydro-Electric Commission completed two units each of 16,000 h.p. in its development at Rapid II on the upper Ottawa River, with a third unit under installation for 1955 operation. Provision has also been made for a fourth unit to bring total ultimate capacity to 64,000 h.p. The Commission is actively engaged on its very large Bersimis River project, designed for 1,200,000 h.p. in eight units. Three units are expected to be in operation in 1956. Progress in 1954 included clearing, road building, camp construction, a new wharf at Forestville, a temporary powerhouse of 15,000 h.p. at Lac Casse, and a beginning of the excavation for the tunnel and powerhouse. Part of the power produced will be used to serve the Gaspé peninsula through four 69 kv. submarine cables 31.5 miles in length laid across the bed of the St. Lawrence River during 1954. Construction of the 161 kv. line of 132 miles from Les Boules to Copper Mountain was also completed in 1954 and, for later use, a double-circuit 300 kv. line from Bersimis River to Quebec and Montreal is under construction.

At the Beauharnois plant on the St. Lawrence River, dredging operations in the intake canal were continued and an interconnection with the system of the Gatineau Power Company was also completed by a 110 kv. line from Cedars to Lachute. In the more northern region, a 146 mile 161 kv. line between St. Felicien and the Chibougamau mining district was nearing completion.

The Shawinigan Water and Power Company has preliminary work under way for installation during 1955 of an additional unit of 44,500 h.p. at Rapide Blanc, one of 65,000 h.p. at La Trenché, and one of 49,000 h.p. at the La Tuque generating station. During 1954 the Company extended its transmission system by 75 miles of 60 kv. line and had under construction 80 miles of 220 kv. line.

The Gatineau Power Company has under installation for 1955 operation a new unit of 47,000 h.p. at Pagan Falls which will operate at 60 cycles, representing the anticipated eventual change from 25 cycle operation in the Gatineau River plants.

The Northern Quebec Power Company Limited is installing an additional unit of 35,000 h.p. at their Quinze plant on the upper Ottawa River for operation late in 1955.

The Gulf Power Company's plant on the Ste. Marguerite River of two units each of 12,000 h.p. was completed in May 1954 and power at 44 kv. is being delivered to Seven Islands and to Clarke City.

The Quebec Rural Electrification Bureau completed the construction of its hydro-electric plant on the Petites Bergeronnes River at Lac des Sables comprising two units, each of 600 h.p. The City of Megantic placed in service in May the first unit of 2,250 h.p. in its Gayhurst plant on the Chaudière River and operation of the second unit and completion of the development is expected in December.

Ontario.—The Hydro-Electric Power Commission of Ontario continued the rapid expansion of generating capacity during 1954 on several major projects.

In the Sir Adam Beck-Niagara Generating Station No. 2 on the Niagara River, seven units of 105,000 h.p. each were brought into operation and completion of the 12 unit plant of 1,260,000 h.p. was scheduled for 1955. One of the large hydraulic tunnels was placed in service in June and the second in October, the major part of the huge project being completed during 1954. Supplementary to the capacity of the main powerhouse, construction was undertaken on a pumped storage reservoir, comprised of a rock-fill dyke with impervious clay core, to provide 15,000 acre-feet of storage at a location adjacent to the intake canal. Six reversible pump-turbine units each of 40,000 h.p. are to be installed for initial operation in 1956.

The Commission began construction of the control dam which forms part of the Niagara River remedial works. These are designed to control water levels and enhance the beauty of Niagara Falls and are being carried out jointly by Canada and the United States. In final form, the control dam, with an over-all length of 1,550 ft., will comprise 13 individually operated bascule-type gates mounted on concrete piers. The dam is located on the Canadian side of the river a short distance upstream from the head of the Cascades. Two gates, comprising the first stage of construction, were scheduled for operation in April 1955.

At the Pine Portage generating station on the Nipigon River, two additional units, each of 45,000 h.p., were placed in service, bringing the total installation to 172,000 h.p.

At Manitou Falls on the English River preliminary construction was begun on a development initially of 55,500 h.p. in three units for operation in 1956 and with provision for a fourth unit of 18,500 h.p. Progress was made in the clearing of flood lands and in the construction of cofferdams.

As the participating Canadian agency in the development of the International Rapids on the St. Lawrence River the Commission began preliminary construction in the powerhouse area, comprising two cofferdams and two access tunnels under the present navigation canal. The project involves a main dam and powerhouse between Barnhart Island and the Canadian shore, and two control dams, one on the United States channel of Barnhart

Island and one on the main channel below Galop Rapids, near Iroquois, Ont. Tenders have been called for the supply of 75,000 h.p. turbines, 16 of which will be installed and operated by the Commission, with initial operation scheduled for 1958.

Extensions to the Commission's transmission system included 185 miles at 230 kv., 263 miles at 115 kv., 197 miles at 13 kv. to 44 kv., and 1,080 circuit miles of rural lines. Good progress was made on the conversion to 60 cycle operation of equipment in the area previously using 25 cycle power and about 50 p.c. of the program was completed. One 85,000 h.p. generating unit in the DeCew Falls Plant No. 2 was changed to 60 cycle operation.

The Great Lakes Power Company in October 1954 completed its McPhail Falls development on the Michipicoten River, consisting of two turbines, 7,500 h.p. each, under 48 foot head and each driving a 5,000 kva. generator.

Prairie Provinces.—In *Manitoba* the Manitoba Hydro-Electric Board proceeded on schedule with the construction of the McArthur Falls development on the Winnipeg River. Four units, operating under reduced head, were placed in service during December 1954 and it was expected that the plant of 80,000 h.p. in eight units would be completed by July 1955. A new 110 kv. double-circuit transmission line has been completed from the plant to Transcona. The Manitoba Power Commission continued to expand its distribution system; extensions include 115 miles of transmission line at 115 kv., 21 miles at 66 kv., and 92 miles at 33 kv. The City of Winnipeg brought into operation a second unit of 25,000 kw. in its auxiliary steam plant.

In *Saskatchewan* the Saskatchewan Power Corporation completed a new unit of 25,000 kw. in the Saskatoon steam plant, bringing total capacity to 75,000 kw. A dual fuel unit of 2,500 kw. was installed at Swift Current. During the year, about 290 miles of 69 kv. line were built joining Weyburn to Assiniboia, Estevan to Red Jacket, and Saskatoon to North Battleford.

In *Alberta* Calgary Power Limited completed its Bears paw development on the Bow River a short distance west of Calgary. The plant comprises a 20,750 h.p. turbine under 48 foot head, driving an 18,000 kva. generator. The Company also brought into operation a third unit of 30,000 h.p. with 23,500 kva. generator in its Ghost plant farther upstream; the plant operates under 92 foot head and total capacity is 66,000 h.p. In addition construction has been undertaken for 1955 operation on two new developments on the Kananaskis River, 6,900 h.p. at Upper Kananaskis Lake and 18,500 h.p. at the Pocatererra site below Lower Kananaskis Lake. During 1954 the transmission system of the Company was extended by the building of 142 miles of line at 66 kv. and 114 miles at lower voltage. Moreover Calgary Power Limited has under construction for 1956 operation a steam turbine plant at Wabamun with a capacity of 66,000 kw. The Canadian Utilities Limited installed a 6,000 kw. gas turbine unit at Vermilion and, in co-operation with Northland Utilities, added two 1,250 kw. diesel units to the plant at Fairview. The City of Lethbridge installed a new unit in its steam plant, enlarging its capacity by 13,500 kw.

British Columbia.—The highlight of hydro-electric construction in 1954 was the successful completion of the first stage of the great Kemano-Kitimat project of the Aluminum Company of Canada. The first three Pelton turbines, each of 150,000 h.p., under 2,485 foot head, were brought into operation in the underground power house and power is being transmitted at 287 kv. over the 50 mile line to Kitimat. Equipment has been ordered and preparations are under way for the installation of the fourth 150,000 h.p. turbine and 122,000 kva. generator for 1955 operation. Ultimate capacity is about 2,000,000 h.p. but no definite further schedule of installation has been announced.

The Consolidated Mining and Smelting Company of Canada Limited completed the first stage of its Waneta development on the Pend d'Oreille River, comprising two turbines each of 120,000 h.p., under 210 foot head, each directly connected to a 90,000 kva. generator. Provision has been made in the powerhouse and headworks for two additional units when required.

The British Columbia Electric Company Limited completed the installation of the fourth unit of 62,000 h.p. in its Bridge River plant, with a total capacity of 248,000 h.p. The work of raising the crest of the LaJoie storage dam was continued. Work was commenced on the Seton Creek development near Lillooet to consist of a single unit of 58,500 h.p. operating under 147 foot head for operation in 1956. Construction of a 60 kv. transmission line was completed between Lillooet and Ashcroft, a distance of 60 miles, and work began on the building of a second 100 mile transmission line from Bridge River to Vancouver to operate at 345 kv., the highest voltage on this Continent. To provide additional power for Vancouver Island an order has been placed for a submarine cable to be laid across the Strait of Georgia with a length of 77 miles and a capacity of 120,000 kva., operating at 132 kv.

The British Columbia Power Commission continued work on the redevelopment of the Puntledge River site near Courtenay, the plant to consist of a single unit comprising a 35,000 h.p. turbine under 355 foot head, driving a 30,000 kva. generator, with operation expected early in 1955. Good progress was made on the Spillimacheen River project and completion of the first stage, comprising 5,250 h.p. in three units, is anticipated in the spring of 1955; later an additional unit of 3,000 h.p. may be installed. Investigations have been completed covering a 70,000 h.p. development at Ladore Falls on the Campbell River and construction is planned for 1955. A 60 kv. transmission line from Whatshan to Nakusp was completed and a 33 kv. line from Spillimacheen River to Golden is under construction.

The Shawatlans hydro-electric plant of Northern British Columbia Power Company Limited at Woodworth Lake, comprising a 1,650 h.p. turbine and 1,125 kva. generator, was destroyed by fire in August 1954. It is expected that replacement will be undertaken in 1955.

Additions to existing diesel powered generating stations of the British Columbia Power Commission include 1,000 kw. at Williams Lake, 1,000 kw. at Terrace, 1,136 kw. at Burns Lake and 1,000 kw. at Quesnel.

Yukon Territory.—In southern Yukon and northern British Columbia, Northwest Power Industries Limited continued investigations towards a major hydro-electric development similar to Kitimat but with an even higher ultimate capacity of about 4,300,000 h.p. The scheme involves the conversion of the large lakes in the headwaters of the Yukon River into a huge storage reservoir by the building of dams near Whitehorse and at other locations. The flow of the main Yukon River and of adjacent rivers and streams would then be diverted to the Nakonake Valley, providing a head of 1,100 ft. and allowing the development initially of 880,000 h.p. and ultimately of 2,800,000 h.p. Later a third tunnel would convey the water to the Taku River for further power generation. The proposed industrial site would be on the Taku River in British Columbia where smelters and refineries for various metallurgical purposes could be located.

The Yukon Hydro Company Limited plans to build in 1955 a new plant of 800 h.p. involving the diversion to McIntyre Creek of water from the tailrace of the present Porter Creek plant.

Section 2.—The Central Electric Station Industry

Central electric stations are companies, municipalities or individuals selling or distributing electric energy whether generated by themselves or purchased for resale. Stations are divided into two classes according to ownership, viz.: (1) private—those privately owned and operated by companies or individuals, and (2) public—those owned and operated by municipalities or governments. These are subdivided according to the kind of power used into (a) hydraulic, (b) fuel, and (c) non-generating. This last group purchases practically all the power it resells and a few of these stations have generating equipment that is held for emergencies. The hydraulic stations contain water turbines and wheels

with approximately 88 p.c. of the total capacity of hydro installations in all industries in Canada. The generators driven by this hydraulic equipment generate 94 p.c. of the total output of all central electric stations.

4.—Electric Energy Generated by Type of Station 1938-53 and by Province 1953

Year	Generated by—		Total	Year, Province or Territory	Generated by—		Total
	Water Power	Thermal Power			Water Power	Thermal Power	
	'000 kwh.	'000 kwh.	'000 kwh.		'000 kwh.	'000 kwh.	'000 kwh.
				1953			
1938.....	25,687,568	466,592 ^r	26,154,160	Nfld.....	247,187	4,240	251,427
1939.....	27,829,017	509,013 ^r	28,338,030	P.E.I.....	366	39,073	39,439
1940.....	29,524,248	585,035 ^r	30,109,283	N.S.....	471,769	554,134	1,025,903
1941.....	32,628,930	688,733	33,317,663	N.B.....	497,690	248,614	746,304
1942.....	36,582,953	772,226	37,355,179	Que.....	33,770,297	23,500	33,793,797
1943.....	39,660,312	819,281	40,479,593	Ont.....	16,478,543	1,789,768	18,268,311
1944.....	39,553,352	1,045,427	40,598,779	Man.....	2,750,270	3,669	2,753,939
1945.....	39,131,020	999,034	40,130,054	Sask.....	553,459	620,672	1,174,131
1946.....	40,692,395	1,044,592	41,736,987	Alta.....	796,106	543,821	1,339,927
1947.....	42,273,167	1,151,632	43,424,799	B.C.....	3,276,091	105,533	3,381,624
1948.....	41,070,095	1,319,586	42,389,681	Yukon and N.W.T.....	84,684	1,441	86,125
1949.....	42,779,199	1,639,374	44,418,573	Canada, 1953....	58,926,462	3,934,465	62,860,927
1950.....	46,624,218	1,869,500	48,493,718				
1951.....	52,955,002	1,896,842	54,851,844				
1952.....	57,023,530	2,385,668	59,409,198				

Subsection 1.—Statistics of Central Electric Stations*

The growth of the central electric station industry has been practically continuous since 1919 when statistics of kilowatt hours generated were first made available. The general movement has been strongly upward: the output of central stations during 1953 was more than eleven times that of 1919 and, in terms of 1939, had risen by 122 p.c. Total horsepower installed increased almost continuously even during the depression years mainly because large power projects planned before the depression were in process of construction. Expansion since the end of World War II has been spectacular and large additional developments are currently under way (see pp. 556-560). Installed capacity of the industry in hydro and thermal units is now more than one horsepower for every Canadian.

* Revised in the Public Finance and Transportation Division, Dominion Bureau of Statistics.

5.—Summary Statistics of Central Electric Stations 1944-53

NOTE.—Figures for main plant equipment for 1917-31 are given in the 1940 Year Book, p. 369 and for 1932-43 in the 1950 edition, p. 564.

Year	Generating Power Plants	Revenue from Sale of Power ¹	Power Equipment	Kilowatt Hours Generated	Customers	Persons Employed	Salaries and Wages
	No.	\$	h.p.	'000	No.	No.	\$
1944.....	626	215,246,391	9,898,908	40,598,779	2,238,023	19,770	36,945,296
1945.....	600	215,105,473	9,840,259	40,130,054	2,333,230	21,283	39,521,365
1946.....	600	226,096,273	10,001,712	41,736,987	2,476,830	24,577	46,422,998
1947.....	607	243,705,976	9,736,087	43,424,799	2,643,327	26,704	54,120,717
1948.....	635	257,377,490	10,219,596	42,389,681	2,822,027	29,349	61,974,958
1949 ²	650	280,311,624	10,883,276	44,418,573	3,076,369	31,746	70,551,730
1950.....	665	323,833,465	11,976,241	48,493,718	3,269,824	46,193	71,773,595
1951.....	647	374,643,376	13,030,592	54,851,844	3,439,750	47,467	89,130,327
1952.....	562	415,494,074	14,221,806	59,409,198	3,620,595	47,238	102,165,917
1953.....	524	469,047,351	15,661,037	62,860,927	3,817,455	48,169	115,652,039

¹ Excludes duplication.

² Newfoundland included from 1949.

6.—Electric Energy Generated in Central Electric Stations by Province 1949-53

Province or Territory	1949	1950	1951	1952	1953
	'000 kwh.	'000 kwh.	'000 kwh.	'000 kwh.	'000 kwh.
Newfoundland.....	200,610	147,470	172,438	233,291	251,427
Prince Edward Island.....	24,950	29,050	32,768	35,879	39,439
Nova Scotia.....	717,473	762,339	887,908	964,771	1,025,903
New Brunswick.....	651,253	696,519	756,087	752,887	746,304
Quebec.....	25,530,923	27,323,311	29,690,086	32,112,878	33,793,797
Ontario.....	11,324,407	12,718,518	15,985,056	17,297,526	18,268,311
Manitoba.....	2,159,998	2,449,383	2,564,537	2,699,246	2,753,939
Saskatchewan.....	858,088	903,144	978,773	1,079,309	1,174,131
Alberta.....	800,729	869,064	996,945	1,174,002	1,339,927
British Columbia.....	2,105,186	2,535,412	2,723,454	2,987,261	3,381,624
Yukon and Northwest Territories.....	44,956	59,508	63,794	72,148	86,125
Canada.....	44,418,573	48,493,718	54,851,844	59,409,198	62,860,927

Domestic Service.—Power used by domestic customers or for household purposes amounts to almost 16 p.c. of the total production of central electric stations. Details of the number of domestic customers served, the kilowatt hours delivered and the costs to the customers, exclusive of direct federal, provincial and municipal taxes on such service, are shown in Table 7. The average consumption per customer and average cost per kilowatt hour vary considerably as between municipalities and also as between provinces but the differences in the average bills are smaller. The availability of low cost power to domestic users contributes greatly to the high standard of living in Canada. Average consumption per customer is more than double that of 1939 and costs per kilowatt hour are almost 11 p.c. lower.

7.—Summary Statistics of Domestic Consumption of Electricity 1944-53

Year	Customers	Consumption	Average Consumption per Customer	Average Charge per Annum	Average Charge per kwh.
	No.	'000 kwh.	kwh.	\$	cts.
1944.....	1,906,452	3,046,980	1,598	27.96	1.75
1945.....	1,987,360	3,365,497	1,693	28.05	1.66
1946.....	2,104,549	3,881,677	1,844	29.85	1.62
1947.....	2,246,253	4,383,222	1,951	31.28	1.60
1948.....	2,398,847	4,984,280	2,078	33.32	1.60
1949.....	2,619,831	5,678,847	2,168	34.47	1.59
1950.....	2,797,378	6,750,303	2,413	38.97	1.61
1951.....	2,951,988	7,726,114	2,617	43.25	1.65
1952.....	3,112,306	8,741,182	2,809	46.48	1.65
1953.....	3,283,486	9,877,727	3,008	51.25	1.70

Farm Service.—Table 8 shows the number of farm customers, the average annual consumption, average annual revenue and the average revenue per kilowatt hour sold to these customers in each province in 1952 and 1953. Rural electrification has made considerable progress since the end of World War II. Farm customers added during 1953 totalled 24,479 and the national total at 384,349 increased by 7 p.c. over 1952. It is estimated that about 61 p.c. of the farm dwellings in Canada now enjoy the benefits of power line service. In addition many other farms generate their own electricity by the use of engines, windmills, etc.

8.—Farm Service Furnished by Central Electric Stations 1952 and 1953

(Exclusive of Newfoundland and the Yukon and Northwest Territories)

Year and Province	Customers	Consumption of Electric Energy		Revenue Received		
		Total Kilowatt Hours	Average kwh. per Customer	Total	Average per Customer	Average per kwh.
	No.	'000	No.	\$	\$	cts.
1952						
Prince Edward Island.....	3,769	3,025	803	250,617	66.49	8.3
Nova Scotia.....	20,560	14,735	717	664,314	32.31	4.5
New Brunswick.....	36,354	30,710	845	1,824,564	50.19	5.9
Quebec.....	95,397	116,873	1,225	3,535,841	37.06	3.0
Ontario.....	133,409	480,894	3,605	9,372,808	70.26	1.9
Manitoba.....	29,623	78,963	2,666	2,156,227	72.79	2.7
Saskatchewan.....	8,591	13,117	1,527	705,491	82.12	5.4
Alberta.....	13,818	37,960	2,747	1,024,527	74.14	2.7
British Columbia.....	18,349	47,048	2,564	1,081,986	58.97	2.3
Totals, 1952.....	359,870	823,325	2,288	20,616,375	57.29	2.5
1953						
Prince Edward Island.....	4,095	3,474	848	292,258	71.37	8.4
Nova Scotia.....	20,950	15,979	763	705,815	33.69	4.4
New Brunswick.....	37,157	31,659	852	1,878,048	50.54	5.9
Quebec.....	98,571	127,985	1,298	3,769,277	38.24	2.9
Ontario.....	138,031	525,013	3,804	11,588,687	83.96	2.2
Manitoba.....	33,601	98,887	2,943	2,620,162	78.25	2.7
Saskatchewan.....	13,850	26,528	1,915	1,324,580	95.64	5.0
Alberta.....	18,634	48,529	2,604	1,249,533	67.06	2.6
British Columbia.....	19,460	52,754	2,711	1,185,390	60.91	2.2
Totals, 1953.....	384,349	930,808	2,420	24,622,750	64.03	2.6

Equipment of Central Electric Stations.—Power station equipment shown in Table 9 includes the total equipment of generating stations both thermal and hydraulic as well as the thermal standby equipment of non-generating stations. The capacities of the equipment are manufacturers' ratings and, with regard to water wheels and turbines, it should be noted that the kilowatt hour capacities vary with the supply of water. The majority of the hydraulic stations are large, serving wide areas over heavy transmission lines. With a few exceptions most of the thermal plants are small, serving the needs of local municipalities. In 1953 the number of thermal plants decreased as compared with previous years. Larger units are being installed to replace in some localities two or three small units. Equipment data were not included for small industries or firms, particularly in Saskatchewan and Alberta, where output was largely consumed by their own plants.

9.—Total Equipment of Central Electric Stations by Province 1952 and 1953

Year, Province or Territory	Generating Power Plants	Water Wheels and Turbines		Thermal Engines		Generators	
		No.	Capacity	No.	Capacity	No.	Capacity
1952	No.		h.p.		h.p.		kva.
Newfoundland.....	19	30	71,215	17	3,246	48	62,462
Prince Edward Island.....	6	5	369	17	21,340	20	17,375
Nova Scotia.....	46	60	144,390	50	197,222	107	290,561
New Brunswick.....	17	13	106,600	43	112,541	55	188,948
Quebec.....	97	291	6,679,023	41	52,552	336	5,740,457
Ontario.....	133	377	3,614,666	42	684,117	419	3,450,291
Manitoba.....	11	42	708,000	12	18,095	54	555,276
Saskatchewan.....	80	7	109,800	157	321,443	156	361,660
Alberta.....	86	15	205,900	134	180,202	150	327,173
British Columbia.....	59	64	897,075	118	78,498	184	846,851
Yukon and N.W.T.....	8	4	13,800	15	1,712	19	13,201
Canada, 1952.....	562	908	12,550,838	646	1,670,968	1,548	11,854,255
1953							
Newfoundland.....	20	37	106,850	17	6,911	54	97,730
Prince Edward Island.....	7	5	369	14	21,110	20	17,375
Nova Scotia.....	42	56	146,735	47	219,336	93	310,280
New Brunswick.....	18	15	133,600	45	135,631	59	235,823
Quebec.....	93	306	7,297,533	41	54,802	348	6,309,094
Ontario.....	134	397	3,739,776	47	1,011,117	441	3,797,937
Manitoba.....	10	44	715,000	9	37,250	53	577,651
Saskatchewan.....	68	7	109,800	152	354,616	154	392,670
Alberta.....	68	15	205,900	120	292,352	138	416,136
British Columbia.....	57	66	953,075	135	102,822	201	915,101
Yukon and N.W.T.....	7	5	14,740	15	1,712	20	14,077
Canada, 1953.....	524	953	13,423,378	642	2,237,659	1,581	13,083,874

Export and Import of Electric Power.—Electric energy is exported from Canada only under licence and an export tax of 0.03 cents per kilowatt hour is levied with some exceptions. The export duties for the years ended Mar. 31, 1951 to 1954, were \$608,602, \$743,407, \$738,918 and \$662,860 respectively. Exports for the years 1951-54 are shown in Table 10. There are also large interprovincial movements of electric energy from Quebec to Ontario, and smaller movements between other provinces.

The water allowed to be diverted at Niagara Falls for power purposes was increased by 5,000 cu. feet per second to the Canadian side in November 1940 through a diversion of water from Long Lake and the Ogoki River from the James Bay watershed to the Great Lakes watershed. In 1941 a further increase of 9,000 c.f.s. to the Canadian plants and 12,500 c.f.s. to the United States plants was permitted and in 1943 an additional 4,000 c.f.s. to Canadian plants, bringing the totals up to 54,000 c.f.s. for Canada and 32,500 c.f.s. for the United States. This increased water, with greater development of plants on the St. Lawrence River, made possible the increased export of both firm and secondary power to the United States (5,000 c.f.s. will produce about 150,000 h.p. at the Queenston, Ont., plant). During 1950-51, increased demands from domestic consumers and low water reduced the surplus energy available for export but exports increased in 1952 and reached an alltime high of 2,718,308,000 kwh. in 1954.

10.—Electric Energy Exported from Canada by Companies and Imported from the United States 1951-54

Company	1951	1952	1953	1954
	'000 kwh.	'000 kwh.	'000 kwh.	'000 kwh.
Exported to United States—				
Hydro-Electric Power Commission of Ontario.....	392,036	374,772	352,129	307,550
Hydro-Electric Power Commission of Ontario (surplus).....	717,387	744,878	616,066	1,111,971
Canadian Niagara Power Company.....	303,660	321,188	316,641	312,291
Canadian Niagara Power Company (surplus).....	37,966	93,218	69,899	68,748
Ontario and Minnesota Power Company.....	39,340	42,312	44,212	43,655
Main and New Brunswick Electric Power Company.....	39,129	27,610	28,666	42,138
Main and New Brunswick Electric Power Company (surplus)...	2,113	4,956	7,439	17,143
British Columbia Electric Railway Company.....	188,186	209,982	308,695	150,006
Southern Canada Power Company.....	2,976	3,220	3,787	3,818
Southern Canada Power Company (surplus).....	—	11,616	28,777	13,657
Quebec Hydro-Electric Commission.....	644,017	650,142	645,411	643,864
Fraser Companies, Limited.....	8,319	8,893	1,864	3,025
Detroit and Windsor Subway Company.....	325	352	360	336
Other.....	68	71	84	106
Totals, Exports.....	2,375,522	2,493,210	2,424,030	2,718,303
Imported from United States.....	8,956	19,985	180,637	115,654

Subsection 2.—Ownership and Regulation of Central Electric Stations*

Water power is developed in Canada by provincial commissions, by municipalities and by private companies. The first such provincial commission was formed in Ontario in 1906 to act as trustee for a group of municipalities to develop and distribute electricity. The Hydro-Electric Power Commission of Ontario now generates and purchases power, transmits it to rural and urban municipalities and also serves large power customers. This Commission also exports and imports power to and from the United States and is currently developing water power along the projected St. Lawrence Seaway in co-operation with the New York State Power Authority.

11.—Summary Statistics of Publicly Owned Central Electric Stations 1944-53

Year	Generating Power Plants	Customers	Electric Energy Generated	Power Equipment	
				Water Wheels and Turbines	Total
	No.	No.	'000 kwh.	h.p.	h.p.
1944.....	202	1,484,784	14,910,198	3,092,295	3,424,729
1945.....	208	1,566,676	14,599,195	3,118,324	3,460,272
1946.....	203	1,650,739	14,739,271	3,274,484	3,612,539
1947.....	230	1,772,919	15,759,275	3,380,900	3,760,833
1948.....	242	1,884,642	16,692,388	3,632,636	4,085,141
1949 ¹	259	2,033,418	17,686,684	3,784,484	4,359,048
1950.....	270	2,200,957	20,061,314	4,553,449	5,171,747
1951.....	270	2,315,309	24,380,802	4,955,247	5,804,690
1952.....	225	2,444,672	26,525,971	5,286,482	6,542,270
1953.....	221	2,583,608	28,447,578	5,618,667	7,382,895

¹ Figures include Newfoundland since 1949.

A large portion of the power development in Quebec is connected with pulp and paper plants and with the aluminum industry. Such power plants are operated as separate organizations and deliver power to the parent companies at relatively low rates. Substantial blocks of power are also produced in Quebec for export to Ontario.

* The information included under the provincial headings of this Subsection has been revised by the various provincial commissions or authorities concerned.

Table 12 shows statistics of publicly owned central electric stations by province for 1952 and 1953. Table 14 gives comparable statistics for private stations.

12.—Publicly Owned Central Electric Stations by Province 1952 and 1953

Year and Province or Territory	Generating Power Plants	Customers	Electric Energy Generated	Power Equipment	
				Water Wheels and Turbines	Total
	No.	No.	'000 kwh.	h.p.	h.p.
1952					
Newfoundland.....	2	964	3,375	—	2,264
Prince Edward Island.....	1	2,567	7,173	—	4,190
Nova Scotia.....	24	60,969	395,674	104,680	142,128 ^a
New Brunswick.....	11	93,469	310,098	12,600	119,121 ^a
Quebec.....	22	453,407	7,923,576	1,446,935	1,481,339 ^a
Ontario.....	92	1,352,337	15,478,630	3,221,592	3,852,253 ^a
Manitoba.....	8	153,643	1,030,681	315,000	332,250 ^a
Saskatchewan.....	41	128,234	453,956	—	272,301
Alberta.....	8	115,617	322,845	—	116,515
British Columbia.....	14	83,326	563,069	174,305	207,919 ^a
Yukon and Northwest Territories.....	2	139	36,894	11,350	11,990 ^a
Canada, 1952.....	225	2,444,672	26,525,971	5,286,462	6,542,270
1953					
Newfoundland.....	2	1,132	3,012	—	2,264
Prince Edward Island.....	1	2,734	7,782	—	4,190
Nova Scotia.....	24	63,260	414,911	104,680	142,058
New Brunswick.....	11	98,058	329,123	39,600	163,161
Quebec.....	22	474,016	8,647,418	1,779,935	1,815,899
Ontario.....	93	1,425,197	16,466,886	3,251,797	4,209,458
Manitoba.....	6	165,697	871,405	201,000	238,250
Saskatchewan.....	39	140,040	525,700	—	305,661
Alberta.....	8	125,743	401,685	—	204,375
British Columbia.....	13	87,683	729,071	230,305	285,589
Yukon and Northwest Territories.....	2	148	50,585	11,350	11,990
Canada, 1953.....	221	2,583,608	28,447,578	5,618,667	7,382,895

Summary statistics of privately owned central electric stations are given for the years 1944 to 1953 in Table 13.

13.—Summary Statistics of Privately Owned Central Electric Stations 1944-53

Year	Generating Power Plants	Customers	Electric Energy Generated	Power Equipment	
				Water Wheels and Turbines	Total
	No.	No.	'000 kwh.	h.p.	h.p.
1944.....	424	753,239	25,688,581	6,175,674	6,474,179
1945.....	392	766,554	25,530,887	6,093,240	6,379,987
1946.....	397	826,091	26,997,716	6,104,383	6,389,173
1947.....	377	870,408	27,065,524	5,750,950	6,025,254
1948.....	393	937,385	25,697,293	5,837,670	6,134,455
1949 ¹	391	1,042,951	26,731,889	6,188,921	6,524,228
1950.....	395	1,068,867	28,432,404	6,471,350	6,804,494
1951.....	377	1,124,441	30,471,402	6,831,792	7,225,902
1952.....	337	1,175,923	32,883,227	7,264,376	7,679,536
1953.....	303	1,233,847	34,413,349	7,804,711	8,278,142

¹ Figures include Newfoundland since 1949.

The predominant position of Quebec in the electric power field can be seen from the figures of Table 14. Of the total power generated in Canada by all central electric stations in 1953, 40 p.c. was generated by privately owned stations in the Province of Quebec; this percentage decreased from 57 in 1943 as a result of the transfer in 1944 of the Montreal Light, Heat and Power Company and the Beauharnois Power Company to the publicly owned Quebec Hydro-Electric Commission.

14.—Privately Owned Central Electric Stations by Province 1952 and 1953

Year and Province or Territory	Generating Power Plants	Customers	Electric Energy Generated	Power Equipment	
				Water Wheels and Turbines	Total
	No.	No.	'000 kwh.	h.p.	h.p.
1952					
Newfoundland.....	17	42,441	229,916	71,215	72,197
Prince Edward Island.....	5	10,545	28,706	369	17,519
Nova Scotia.....	22	97,449	569,097	39,710	199,484
New Brunswick.....	6	26,660	442,789	94,000	100,020
Quebec.....	75	533,857	24,189,302	5,232,088	5,280,236
Ontario.....	41	37,044	1,818,896	393,074	446,530
Manitoba.....	3	55,042	1,668,565	393,000	393,845
Saskatchewan.....	39	10,921	625,353	109,800	158,942
Alberta.....	78	84,642	851,157	205,900	269,587
British Columbia.....	45	274,900	2,424,192	722,770	767,654
Yukon and Northwest Territories.....	6	2,422	35,254	2,450	3,522
Canada, 1952.....	337	1,175,923	32,883,227	7,264,376	7,679,536
1953					
Newfoundland.....	18	44,610	248,415	106,850	111,497
Prince Edward Island.....	6	11,121	31,657	369	17,289
Nova Scotia.....	18	101,580	610,992	42,055	224,013
New Brunswick.....	7	27,343	417,181	94,000	106,070
Quebec.....	71	560,941	25,146,379	5,517,598	5,536,436
Ontario.....	41	36,749	1,801,425	487,979	541,435
Manitoba.....	4	55,686	1,882,534	514,000	514,000
Saskatchewan.....	29	11,192	648,431	109,800	158,755
Alberta.....	60	94,916	938,242	205,900	293,877
British Columbia.....	44	287,102	2,652,553	722,770	770,308
Yukon and Northwest Territories.....	5	2,607	35,540	3,390	4,462
Canada, 1953.....	303	1,233,847	34,413,349	7,804,711	8,278,142

In 1953 all stations in Ontario, both private and public, produced a little more than one-half as much power as Quebec stations. Of the total for Ontario stations 10 p.c. was produced by privately owned stations.

Because of the absence of free market determination of prices and regulation of services in an industry that is semi-monopolistic, regulation of electrical utilities has been attempted in most provinces. The governing bodies of the provincial electric power commissions, their functions and activities are summarized by provinces in the following paragraphs. Certain privately owned utilities are also covered.

Newfoundland.—There are no publicly owned hydro-electric systems in Newfoundland. The largest water power development in the Province is located at Deer Lake. The plant, which is operated by Bowater's Newfoundland Pulp and Paper Company Limited, has a total capacity of 154,000 h.p. This Company develops hydro-electric energy at Deer Lake mainly for its own use in the manufacture of pulp and paper and also supplies electric power to the Buchans Mining Company for its mining operations and to the Newfoundland Light and Power Company Limited which distributes electricity to consumers in Corner Brook and adjacent communities in the Bay of Islands sections.

The Anglo-Newfoundland Development Company Limited develops hydro-electric power at two plants situated at Grand Falls and Bishop's Falls with a total capacity of 59,900 h.p. The Company utilizes most of its hydro-electric power in the manufacture of pulp and paper and supplies light and power to the towns of Grand Falls, Bishop's Falls, Botwood and adjacent communities.

The Newfoundland Light and Power Company Limited has seven plants that develop hydro-electric energy with a total installed capacity of 55,400 h.p. It distributes electricity to the city of St. John's and the town of Bell Island and the iron mining operations there.

The United Towns Electric Company Limited operates seven plants, of which five are located at Conception Bay and two on the Burin Peninsula. The Company sells light and power to communities on the Avalon and Burin Peninsula. It developed 28,089,415 kwh. during 1954. The West Coast Power Company, a subsidiary of the United Towns Electric Company, operates a plant on Lookout Brook, a tributary of Flat Bay Brook which flows into St. George's Bay. It generated 16,790,700 kwh. in 1954.

The Iron Ore Company of Canada operates a plant at Menihek Rapids on the Ashuanipi River in Labrador. The plant has an initial installation of 12,000 h.p. with provision for two additional units. It serves the new iron ore mining centre of the Iron Ore Company near Knob Lake.

Two small companies, the Clarenville Light and Power Company and the Union Electric Light and Power Company Limited, operate plants at Clarenville and Port Union, respectively.

Nova Scotia.—Legislation relating to the use of water power was first enacted in Nova Scotia in 1909 under "An Act for the Further Assistance of the Gold Mining Industry". In 1914 legislation was passed initiating the development of water power in the Province and this was carried on in an investigatory manner in co-operation with the Federal Government until 1919 when the Nova Scotia Power Commission was created under the Power Commission Act. Certain investigatory work is being carried on in Nova Scotia by the Federal Government in close association with the Commission and the control of the water resources of the Province is vested in the Crown and administered under the provisions of the Nova Scotia Water Act of 1919. The Commission pays regular fees for water rights.

The function of the Commission is to supply electric power and energy by the most economical means available. The Rural Electrification Act of 1937 greatly increased the possibilities for retail service by providing for financial assistance to equalize cost and revenue of extensions, the construction of which has been approved by the Governor in Council as qualifying under the Act. In 1941 an amendment to the Power Commission Act authorized the Commission, subject to the approval of the Governor in Council, to regulate and control the generation, transmission, distribution, supply and use of power in the Province.

Financially the Commission is self supporting, repaying borrowings from revenue. The balance sheet at Nov. 30, 1954 showed total fixed assets of \$39,485,348 including work in progress amounting to \$2,437,659. Current assets amounted to \$586,682. Liabilities are shown as follows: fixed \$32,584,340; current \$1,603,900; contingency and renewal reserves \$3,812,651; sinking fund reserves \$6,297,562; and general reserves and special reserves \$1,928,347.

The initial development of the Commission was an 800 h.p. installation on the Mushamush River which went into operation in 1921 and delivered 208,752 kwh. in the first complete year of operation. Succeeding years showed a marked growth in installed capacity, reaching 101,450 h.p. in hydraulic turbines, 3,177 h.p. in diesel units and 21,125 kw. in steam turbines by Nov. 30, 1954 with a total generation for that year of 449,872,318 kwh.

The territory of the Commission extends over the entire Province and embraces nine systems which include 24 generating stations and 4,280 miles of transmission and distribution lines through which 53 wholesale and 28,772 retail customers received 431,871,084 kwh. during the year ended Nov. 30, 1954.

The installed capacity and annual output of the various systems of the Nova Scotia Power Commission are given in Table 15.

15.—Capacity and Output of the Nova Scotia Power Commission, Year Ended Nov. 30, 1954

Systems	First Year of Operation	Installed Capacity		Annual Generation	
		Initial	1954	Initial	1954
		h.p.	h.p.	kwh.	kwh.
Hydro					
Mushamush.....	1921	800	330	208,752	1,139,500
St. Margaret.....	1922	10,700	15,700	19,538,000	34,761,500
Sheet Harbour—					
Malay Falls.....	1924	5,550	5,550	6,536,860	11,563,826
Ruth Falls.....	1925	6,290	10,590	7,361,117	34,637,208
Liscomb.....	1951	..	700	..	3,292,520
Mersey—					
Original development.....	1928	29,400	28,000	85,863,390	126,309,400
Cowie Falls.....	1938	10,200	10,200	37,866,000	41,425,000
Deep Brook.....	1950	12,800	12,800	11,154,000	50,769,000
Tusket.....	1929	2,820 ¹	2,820 ¹	3,680,540	11,454,704
Roseway.....	1930	560	1,060	365,600	4,060,500
Markland—					
Harmony.....	1943	1,400	1,200	783,913	4,032,850
Gulch.....	1952 ²	8,500	8,500	17,843,117	19,745,800
Antigonish—					
Barrie Brook.....	1940	500	500	1,780,734	2,385,290
Dickie Brook.....	1948	3,500	3,500	8,920,000	10,308,400
Totals.....	...	...	101,450	...	355,935,498
Thermal					
Canseau Diesel.....	1937	72	2,817	21,650	4,147,010
Canseau Steam.....	1945	1,125 ³	1,125 ³	4,437,280	3,970,880
Sheet Harbour Steam.....	1951 ⁴	20,000 ³	20,000 ³	67,158,500	85,771,800
Sheet Harbour Diesel.....	1954 ⁵	360	360	—	47,130
Grand Total.....	...	...	...	...	449,872,318

¹ Minimum head.
full year generation was 1952.

² First full year generation was 1953.

³ Three months only.

⁴ Rated in kilowatts.

⁵ First

New Brunswick.—The New Brunswick Electric Power Commission was incorporated under the Electric Power Act 1920. Generating stations owned by the Commission are as follows:—

Plant	Type	Capacity	Plant	Type	Capacity
		h.p.			h.p.
Musquash.....	Hydro.....	9,320	St. Stephen.....	Diesel.....	2,800
Tobique.....	Hydro.....	27,000	Campobello.....	Diesel.....	300
Grand Lake.....	Steam.....	58,700	Grand Manan.....	Diesel.....	900
Saint John.....	Steam.....	21,500	Shippegan.....	Diesel.....	2,500
Chatham.....	Steam.....	16,800	St. Quentin.....	Diesel.....	750
			TOTAL CAPACITY.....		140,570

All generating units, with the exception of diesel plants at St. Quentin, Campobello and Grand Manan, are interconnected in a Province-wide grid system.

The statistical information given in Table 16 shows the growth of the Commission's undertakings since 1950.

16.—Growth of the New Brunswick Electric Power Commission, Years Ended Oct. 31, 1950 and Mar. 31, 1951-54

Item	1950	1951 ¹	1952	1953	1954
High-voltage transmission line...miles	646	694	749	827	859
Distribution line....."	5,255	5,623	5,938	6,245	6,681
Direct customers.....No.	52,255	53,777	57,016	61,054	64,181
Plant capacities.....h.p.	87,295	87,095	103,310	140,570	140,570
Power generated.....kwh.	242,302,755	114,373,065	282,405,310	321,232,150	379,369,500
Capital invested.....\$	31,357,828	33,857,407	38,286,374	48,120,336	52,077,662
Revenue.....\$	4,768,746	2,385,054	6,255,615	7,059,588	7,814,229

¹ Five months—Nov. 1, 1950 to Mar. 31, 1951. The Commission's fiscal year-end changed in 1951 from Oct. 31 to Mar. 31.

Quebec.—*The Quebec Streams Commission.*—Created by S.Q. 1 Geo. V, c. 5, and given additional powers by 3 Geo. V, c. 6 (R.S.Q. 1925, c. 46) and 20 Geo. V, c. 34, the Quebec Streams Commission was authorized to ascertain the water resources of the Province, to make recommendations regarding their control, and to construct and operate certain storage dams to regulate the flow of streams. It has assisted companies engaged in such work by the systematic collection of data on the flow of the principal rivers and on meteorological conditions, by investigation of numerous water power sites and determination of the longitudinal profile of a large number of rivers.

From 1912 to 1925 a number of storage reservoirs were built or acquired by the Commission, charges being made to benefiting companies to cover interest and amortization on the capital invested as well as the cost of operation. Since 1925, companies or persons have, under the R.S.Q. 1925, c. 46, built the necessary dams; such storages have been transferred to and are operated by the Commission, the cost of operation only being charged annually to the interested companies or persons. The Commission now controls and operates 28 storage reservoirs in the Province.

Among the rivers controlled by the Commission, either by means of dams on the rivers or by regulating the outflow of lakes at the headwaters, are: the St. Maurice, now developing 1,538,150 h.p.; the Gatineau 528,000 h.p.; the Lièvre 274,000 h.p.; the St. Francis 100,000 h.p.; the Chicoutimi 41,400 h.p.; the Au Sable 33,200 h.p.; and the Métis 15,700 h.p. The Commission also operates nine reservoirs on North River, two in the watershed of the Ste. Anne-de-Beaupré River, and one at the outlet of Lake Morin, on Rivière-du-Loup (lower).

Reservoirs not Controlled by the Quebec Streams Commission.—Among storage reservoirs not controlled or operated by the Commission are: the Lake St. John, the Lake Manouane and Passe Dangereuse on the Peribonca River, and the Onatchiway on the Shipshaw River; the Témiscouata Lake on Madawaska River, controlled by the Gatineau Power Company; Memphremagog Lake on the Magog River, controlled by the Dominion Textile Company; Témiscamingue and Quinze Lakes on the Ottawa River, controlled by the Federal Department of Public Works; Kipawa Lake on the Ottawa River, controlled by the Gatineau Power Company; and Dozois Lake on the upper Ottawa River, controlled by the Quebec Hydro-Electric Commission.

Power developments on the Saguenay River, benefiting from the Peribonca and Lake St. John reservoirs, have a total capacity of 1,950,000 h.p. now that the Chute-à-Caron (Shipshaw) project has been completed.

The Quebec Hydro-Electric Commission.—The Quebec Hydro-Electric Commission was established by S.Q. 8 Geo. VI, c. 22, with the object of supplying power to the municipalities, to industrial and commercial undertakings and to citizens of the Province of Quebec at the lowest rates consistent with sound financial administration.



On Apr. 15, 1944 in accordance with the provisions of this Act, the Commission took over: (a) the system of Montreal Light, Heat and Power Consolidated for the generating and distribution of electricity; (b) the undertaking of the Montreal Island Power Company for the generating and distribution of electricity; and (c) all the shares of the capital stock of the Beauharnois Light, Heat and Power Company. Thus the Quebec Hydro-Electric Commission now controls among other assets the following hydro-electric plants:*

<u>Plant</u>	<u>River</u>	<u>Installed Capacity</u>
		h.p.
Cedars.....	St. Lawrence.....	206,400
Sault-au-Recollet.....	Rivière-des-Prairies.....	45,000
Beauharnois.....	St. Lawrence.....	1,400,000
Rapid VII.....	Upper Ottawa.....	64,000
Rapid II.....	Upper Ottawa.....	32,000

The Commission operates a public utility system which supplies electric light and power requirements to Metropolitan Montreal and surrounding districts, embracing a population of nearly 2,000,000. From the Cedars plant electric energy is supplied to the Aluminum Company of America at Massena, N.Y., and through Beauharnois Light, Heat and Power Company power is sold to The Hydro-Electric Power Commission of Ontario. Sales involved are in the neighbourhood of 100,000 h.p. to Massena, N.Y., and 250,000 h.p. to Ontario.

17.—Growth of the Quebec Hydro System 1945-54

NOTE.—Figures for the years 1935-44 will be found in the 1950 Year Book, p. 572.

Year	Municipalities Served	Customers Served	Power Distributed	
			Total	Primary
	No.	No.	h.p.	h.p.
1945.....	61	305,049	1,045,000	883,000
1946.....	61	309,022	1,085,000	947,000
1947.....	61	318,984	1,127,000	980,000
1948.....	61	330,799	1,202,000	1,034,000
1949.....	61	349,347	1,233,000	1,119,000
1950.....	64	368,026	1,296,000	1,182,000
1951.....	66	387,218	1,312,000	1,312,000
1952.....	67	400,779	1,620,000	1,462,000
1953.....	67	413,439	1,748,000	1,625,000
1954.....	67	430,687	1,700,000	1,687,000

18.—Distribution of Quebec Hydro Primary Power by Customer Group 1950-54

(Coincident with Montreal System peak)

System	1950	1951	1952	1953	1954
	h.p.	h.p.	h.p.	h.p.	h.p.
Montreal System.....	730,000	803,000	873,000	997,000	1,117,000
Beauharnois Local System.....	65,000	171,000	189,000	213,000	154,000
Beauharnois 25-cycle System (H.E.P.C. of Ontario).....	250,000	250,000	250,000	250,000	250,000
Massena System.....	137,000	80,000	135,000	142,000	126,000
Shawinigan System.....	—	8,000	15,000	23,000	40,000
Totals.....	1,182,000	1,312,000	1,462,000	1,625,000	1,687,000

In addition to these generating and distributing systems the Quebec Hydro-Electric Commission owns the 64,000 h.p. upper Ottawa River plant at Rapid VII, the 32,000 h.p. Rapid II plant and also the Dozois Reservoir. Average primary power capacities for this Northern Quebec System (Cadillac-Noranda district) are 1950, 35,500 h.p.; 1951, 30,550 h.p.; 1952, 29,200 h.p.; 1953, 54,000 h.p.; 1954, 80,000 h.p.

* The Commission also purchases 135,000 h.p. from the Shawinigan Water and Power Company.

Ontario.—The Hydro-Electric Power Commission of Ontario was created in 1906 by an enactment of the Ontario Legislature. In its creation consideration was given to the recommendations of advisory commissions previously appointed in response to public demand that the water powers of Ontario should be conserved and developed for the benefit of all the people of the province. The Commission operates under the authority of the Power Commission Act (7 Edw. VII, c. 19) passed in 1907 as an amplification of the Act of 1906 and subsequently modified by numerous amending Acts (R.S.O. 1950, c. 281).

Prior to the 1955 session of the Legislature, the Power Commission Act stipulated that the Commission shall consist of three members appointed by the Lieutenant-Governor in Council, that one commissioner must be and that two may be members of the Executive Council of the Province of Ontario. At the 1955 session however the Act was amended to provide for an increase in the membership of the Commission to six persons. The Lieutenant-Governor in Council may name one of the members of the Commission as Chairman.

The Commission is a corporate entity, a self sustaining public concern endowed under the Power Commission Act with broad powers to produce, buy, and deliver electric power throughout the Province and to exercise certain regulatory functions with respect to the large group of municipal electrical utilities which it serves. The enterprise administered by the Commission is generally referred to as Ontario Hydro.

Initially the undertaking proposed to purchase a block of 100,000 h.p. from the Ontario Power Company Limited at Niagara Falls and to distribute this to 13 municipalities which had signed the original contracts with the Commission to take power at cost. Construction of a transmission system to distribute power to the member municipalities was begun in 1909 and, by the end of 1910, power was being supplied to several municipalities through what was known as the Niagara System. In northwestern Ontario the Thunder Bay System was inaugurated when the Commission built a short transmission line and a substation to serve Port Arthur with power purchased from the Kaministiquia Power Company.

The establishment of the original Niagara System was followed in 1911 by the formation of the Severn System and subsequently of other systems to serve groups of municipalities in various sections of the Province. In 1924 the Severn and two other systems were consolidated to form the Georgian Bay System and in 1929 and 1930 a consolidation of four systems created the Eastern Ontario System. In 1944 the Southern Ontario System came into being through the consolidation of the Niagara, Georgian Bay, and Eastern Ontario Systems.

The Commission continued to operate the Thunder Bay System in the northern part of the Province and in addition it undertook during the 1930's to operate, in trust for the Provincial Government, a group of unconnected systems serving mainly mining and pulp and paper industries, and known as the Northern Ontario Properties. In 1945 its services in northern Ontario were further extended by the purchase of the power system of the Northern Ontario Power Company Limited. On Jan. 1, 1952 the Northern Ontario Properties and the Thunder Bay System were merged for financial and administrative purposes and the consolidation continues to be known as the Northern Ontario Properties.

For the financial and administrative purposes of the Commission, the Province is divided into two parts: that lying south of a line drawn approximately west from Mattawa on the upper Ottawa River to Georgian Bay is served by the Southern Ontario System; the part lying to the north is served by the Northern Ontario Properties. The total area is in turn subdivided into nine regions, seven in the south and two in the north, with regional offices located strategically in nine major municipalities. The Southern Ontario System is a fully integrated co-operative power system. Primarily it serves a group of 318 municipalities receiving power at cost under contracts established according to the provisions of the Power Commission Act. In the Northern Ontario Properties, each of the two regions which at present correspond with the Northeastern and Northwestern Divisions is an integrated power system as the result of the gradual consolidation of several formerly isolated systems. There is no interconnection between the Northeastern and

Northwestern Divisions but there are facilities for the interchange of power between the Northeastern Division and the Southern Ontario System. The Northern Ontario Properties is not a co-operative system although it does serve a group of seven municipalities in its Northwestern Region on a cost-contract basis. Apart from the supply of power to these cost-contract customers, the Northern Ontario Properties are held and operated in trust for the Province of Ontario. The basic principle governing the financial operations of the undertaking is that electrical service is provided by the Commission to the municipal electrical utilities, and by them to their customers at cost.

The Commission's total cost of operation includes the power it purchases, all charges for operation and maintenance of the power systems, interest, and reserve provisions for depreciation, contingencies and stabilization of rates. A sinking fund reserve is also included for the retirement of the Commission's capital debt. The enterprise from its inception has been self supporting, except for the Provincial Government assistance of 50 p.c. of the capital cost of rural distribution facilities, undertaken in pursuance of the Province's long established policy of assisting agriculture. The Province also guarantees the payment of principal and interest of all bonds issued by the Commission and held by the public.

The undertaking as a whole involves two distinct phases of operations:—

(1) Provision of power supply—either by generation or purchase—and its transformation, transmission and delivery in *wholesale* quantities to municipal electrical utilities, certain large industrial customers and rural operating areas. This phase of operations is performed by The Hydro-Electric Power Commission of Ontario. (2) The *retail* distribution of electric energy. In most cities and towns, and in many villages and certain township areas, retail distribution of electric energy is conducted by municipal commissions under the general supervision of The Hydro-Electric Power Commission of Ontario as provided for in the Power Commission Act and the Public Utilities Act. These local commissions own and operate their own distribution facilities. In a small group of municipalities The Hydro-Electric Power Commission of Ontario owns the distribution facilities and conducts retail distribution through what are called local systems. Throughout most of rural Ontario the Commission, on behalf of the respective townships, operates the distribution facilities and attends to all physical and financial operations connected with the retail distribution of energy to customers in the rural operating areas. Since 1944 the rate structure applying to rural customers designated as farm, hamlet, commercial, and summer service has been uniform throughout the Province.

The growth of Ontario Hydro's physical and financial resources reflects the remarkable industrial and social development of the Province. In 1914 the Commission purchased its first generating station, Big Chute on the Severn River. Later in the same year the first Commission-built generating station, at Wasdell Falls, also on the Severn River, was placed in service. The program of purchase and construction of generating stations reached a climax in the great Queenston-Chippawa development, later renamed Sir Adam Beck-Niagara Generating Station No. 1 on the Niagara River in honour of the first Chairman of the Commission. This station first delivered power in 1922 but four years later the Commission found it necessary to negotiate for the extensive purchase of power from large Quebec suppliers in order to satisfy Ontario's steadily growing power demands—demands that have continued to increase over the years.

In 1954 the primary and secondary load carried reached a total of 3,778,744 kw. and a total of 22,386,456,876 kwh. was supplied during the year from all the Commission's resources generated and purchased.

In the ten years since the end of World War II the Commission has carried out a most aggressive program of new construction to provide for increasing power requirements. The capacity of resources generated and purchased more than doubled during this period. Among the generating stations contributing to this remarkable growth are three large hydro-electric stations on the upper Ottawa River, two hydro-electric stations in northern

Ontario, two large fuel-electric stations at Toronto and Windsor respectively and the Sir Adam Beck-Niagara Generating Station No. 2. The program, with allowances for revisions in the capacity of some sources, has served to bring the dependable peak capacity at the end of 1954 to 4,135,050 kw., an increase of 569,700 kw. over the capacity in 1953 and of 2,197,550 kw. over the capacity in 1945.

During 1954 construction was completed for the major hydraulic features at Sir Adam Beck-Niagara Generating Station No. 2 and seven units were in service by the end of the year. Meanwhile excellent progress was maintained in the construction of the powerhouse and the pumped storage scheme. Initially twelve units will be installed at the station, to be followed by the incorporation of the pumped storage scheme. Eventually four more units will be added at the main generating station as required.

The remedial works above the falls in the Niagara River required under the terms of the Niagara Diversion Treaty of 1950 are being undertaken by the United States Corps of Engineers on the United States side of the River and, on the Canadian side, by Ontario Hydro. The whole cost will be shared equally by Canada and the United States. The works include excavations on both sides of the River, a rock-faced retaining wall and some fill on both sides of the Horseshoe Falls, and a control structure on the Canadian side. Excavation on the United States side was completed in 1954 and construction of the control structure by Ontario Hydro was well under way.

In northwestern Ontario two additional units were installed at Pine Portage Generating Station to complete the construction work planned at this station and construction was proceeding rapidly for the Commission's new station at Manitou Falls. A significant extension was made to the Commission's facilities for the interchange of power by the construction of a second 115 kv. line between the Southern Ontario System and the North-eastern Division of the Northern Ontario Properties.

The 1955 Year Book, at pp. 549-553, contains a general descriptive article on the St. Lawrence Power Project, on which commencement of construction on Aug. 10, was marked by an international ceremony. Although this Project is a separate undertaking from the St. Lawrence Seaway, the planning, construction, and operation of both must be carefully co-ordinated. Construction of the Seaway is the responsibility of authorities created by Canada and the United States. The Power Project is being built by Ontario Hydro and the Power Authority of the State of New York and is subject to the approval of a Joint Board of Engineers appointed by the Governments of Canada and the United States. Ontario Hydro and the New York State Power Authority will share equally in the cost of constructing the development, exclusive of the cost of powerhouse machinery and equipment which will be borne by the respective entities. The generating station on the Canadian side will be known as the Robert H. Saunders-St. Lawrence Generating Station in honour of a late Chairman of the Commission.

Preparatory construction work on the St. Lawrence Power Project was carried on during 1954. During the period when navigation was closed two access tunnels and a retractable Bailey bridge were constructed to provide access to the site without interference to the movement of ships through the Cornwall canal. Meanwhile construction of cofferdams proceeded and upon completion, in the early summer of 1955, dewatering of the site was begun.

The Power Project on the St. Lawrence River is the last major hydro-electric site available to the Commission in southern Ontario. To provide for future needs the Commission must look to new resources that may appear to be less economical than those now in use or under construction. These may be hydro-electric resources located at greater distances from load centres or fuel-electric resources using coal, oil or gas. The relative scarcity of these fuels in Ontario however gives added importance to the studies being carried out with regard to the feasibility of generating electric power from nuclear reactors using fuels that are, by contrast, available in abundance in Canada. Atomic Energy of Canada Limited and members of the Commission's staff have participated in these studies which have resulted in the initiation of a project to construct a small nuclear power plant in which the Commission and the Canadian General Electric Company Limited are associated

with Atomic Energy of Canada Limited. The Commission and the Canadian General Electric Company Limited, through representatives of their technical personnel, are actively participating in this project and are also contributing financially to the undertaking. The nuclear power plant will be located close to the Des Joachims Generating Station on the Ottawa River and its output will be fed into the Southern Ontario System. This joint enterprise, as well as being a productive undertaking, will provide a significant demonstration of the application of nuclear science for constructive and peaceful purposes.

The balance sheets of The Ontario Hydro-Electric Commission show that fixed assets at cost at Dec. 31, 1954 amounted to \$1,468,558,729 including rural assets of \$182,467,127. The accumulated reserve for depreciation of fixed assets was \$154,975,237. Total assets of the Commission, allowing for the deduction of accumulated depreciation, amounted to \$1,653,063,771.

In 1954 a total of 338 municipal electrical utilities purchased power from the Commission under cost or fixed-rate contracts for retail distribution to their customers. These utilities had fixed assets at cost amounting to \$243,525,699 against which there was an accumulated reserve for depreciation of \$58,973,785. Municipal assets after deduction of this depreciation reserve amounted to \$382,710,021, of which \$152,461,822 represented the equity acquired in the Commission's systems by those utilities operating under cost-contracts.

19.—Resources of The Hydro-Electric Power Commission of Ontario Generated and Purchased (All Systems), December 1953 and 1954

Year and System	Commission's Generating Stations				Power Purchased	
	Hydro-electric ¹		Fuel-electric ¹			
	kw.	h.p.	kw.	h.p.	kw.	h.p.
December 1953—						
Southern Ontario System.....	1,671,150	2,240,147	652,000	873,995	681,100	913,003
Northern Ontario Properties—						
Northeastern Division.....	297,700	399,062	500	670	...	...
Northwestern Division.....	261,100	350,000	...	...	1,800	2,413
Totals, Resources.....	2,229,950	2,989,209	652,500	874,665	682,900	915,416
December 1954—						
Southern Ontario System.....	2,413,150	3,234,785	450,000	603,217	681,100	913,003
Northern Ontario Properties—						
Northeastern Division.....	297,700	399,062	500	670	...	...
Northwestern Division.....	290,500	389,410	...	...	2,100	2,815
Totals, Resources.....	3,001,350	4,023,257	450,500	603,887	683,200	915,818

¹ Dependable peak capacity—the amount of power subject to periodic change as equipment and water conditions vary, which the source is expected to be able to supply at the time of the system's peak demand. For the Commission owned or Commission operated generating stations, it is presumed that all units are available and that the supply of water is normal. Contractual stipulations govern the capacities of sources of purchased power.

20.—Summary of the Power Development Program of The Hydro-Electric Power Commission of Ontario as at Dec. 31, 1954

System and Development	In Service	Dependable Peak Capacity
		kw.
Southern Ontario System—		
DeCew Falls (extension)—Niagara Region.....	Sept. 1947.....	57,000
Stewartville—Madawaska River.....	Sept. 1948.....	63,000
Additional power purchase contract—Polymer Corporation.....	Nov. 1948.....	22,000
Emergency fuel—electric units.....	Jan. 1949–Apr. 1950.....	20,000
Des Joachims—Ottawa River.....	July 1950–Feb. 1951.....	380,000
Chenau—Ottawa River.....	Nov. 1950–Sept. 1951.....	120,000
Richard L. Hearn—Toronto.....	Oct. 1951–June 1953.....	400,000 ¹
J. Clark Keith—Windsor.....	Nov. 1951–Oct. 1953.....	264,000 ¹
Otto Holden—Ottawa River.....	Jan. 1952–Apr. 1953.....	210,000
Sir Adam Beck—Niagara No. 2—Niagara River (7 units).....	Apr. 1954–Dec. 1954.....	525,000 ²
(5 units).....	1955.....	375,000 ²
Pumped storage.....	1956–57.....	170,000 ¹
Robert H. Saunders—St. Lawrence—St. Lawrence River (16 units).....	1958–60.....	820,000 ¹

For footnotes, see end of table, p. 576.

20.—Summary of the Power Development Program of The Hydro-Electric Power Commission of Ontario as at Dec. 31, 1954—concluded

System and Development	In Service	Dependable Peak Capacity
		kw.
Northern Ontario Properties—		
Northeastern Division—		
George W. Rayner—Mississagi River.....	July 1950.....	47,000
Northwestern Division—		
Ear Falls (extension)—English River.....	June 1948.....	6,000
Aguasabon—Aguasabon River.....	Oct. 1948.....	44,000
Pine Portage—Nipigon River.....	July 1950—Dec. 1954.....	118,300
Manitou Falls—English River.....	1956.....	42,100

¹ Installed capacity. ² Installed capacity; four more main generating units to be added as required; ultimate capacity—1,200,000 kilowatts.

21.—Distribution of Power to Systems of The Hydro-Electric Power Commission of Ontario, Years Ended Dec. 31, 1950-54

NOTE.—Peak load generated and purchased, primary and secondary, in terms of generation.

System	1950 ¹	1951	1952	1953	1954
	kw.	kw.	kw.	kw.	kw.
Southern Ontario System.....	2,210,929	2,425,909	2,798,476	2,909,190	3,162,142
Northern Ontario Properties—					
Northeastern Division.....	255,406	273,148	283,958	309,100	332,706
Northwestern Division.....	248,230	246,933	247,852	262,356	283,896
Totals.....	2,714,565	2,945,990	3,330,286	3,480,646	3,778,744

¹ Owing to the change in the Commission's fiscal year to coincide with calendar year, figures shown here for 1950 cover the 14 months ended Dec. 31, 1950.

22.—Growth of The Hydro-Electric Power Commission of Ontario, Years Ended Oct. 31, 1945-49 and Dec. 31, 1950-54

Year	Municipalities Served	Ultimate Customers Served Directly or Indirectly	Total Power Distributed ¹	Assets of Commission and Municipal Utilities
	No.	No.	kw.	\$
1945.....	922	869,712	1,939,505	524,839,263
1946.....	924	910,563	1,935,972	549,680,339
1947.....	944	952,853	2,003,139	610,133,232
1948.....	970	1,004,127	1,887,317	708,708,622
1949.....	1,017	1,078,221	2,150,231	898,466,484
1950 ²	1,132	1,187,117	2,714,565	1,080,200,039
1951.....	1,175	1,249,366	2,945,990	1,261,739,406
1952.....	1,244	1,317,249	3,330,286	1,442,511,467
1953.....	1,279	1,389,750	3,480,646	1,687,947,082
1954.....	1,301	1,467,034	3,778,744	1,883,311,970

¹ Sum of the maximum 20 minute coincident peak loads (primary plus secondary) of each of the systems operated by the Commission, given in terms of net output of the sources of supply to each system for the last month of each fiscal year. ² Owing to the change in the Commission's fiscal year to coincide with the calendar year, figures for 1950 cover the 14 months ended Dec. 31, 1950.



Manitoba.—The Manitoba Power Commission was established in 1919 for the purpose of distributing electric energy, both wholesale and retail, throughout the Province, with the exception of the Metropolitan Winnipeg area. The utility currently operates under the Manitoba Power Commission Act (R.S.M. 1954, c. 203), as amended.

The Commission's supply of electric energy for distribution is purchased at various points, chiefly in or near the city of Winnipeg and arrangements between the Province of Manitoba and the Winnipeg Electric Company for the purchase of power are contained in the Seven Sisters Agreement of 1928. The Commission has gradually acquired practically all of the municipally owned and privately owned generating plants operating within its jurisdiction and has spread a network of transmission lines across the Province. All energy distributed is now generated by hydro power.

The Commission's program was started in the 1930's and, designed to bring hydro-electric power at uniform service rates to all rural centres of 20 population or over, is now virtually complete and currently serves 496 centres. In 1942 the Manitoba Electrification Enquiry Commission was appointed by the Provincial Government to study the feasibility of widespread farm electrification in the Province. It was concluded that, with the Manitoba Power Commission's network of transmission lines as a source of supply and with the economy in design of farm lines that had been worked out, it would be practicable to bring the benefits of hydro-electric power to over 90 p.c. of the farms in the Province, provided the farmers themselves were prepared to assist in certain organizational and operational matters. A test program undertaken in 1945 proved successful and thereafter the Commission conducted annual programs of farm electrification. By 1948 the Commission's annual goal of 5,000 farms was achieved and the program proceeded at that rate. Manitoba's farm electrification project on an area-coverage basis is now complete. The Manitoba Power Commission has connected electrical service to about 42,000 farms, or 80 p.c. of the total farms of the Province. Over 90 p.c. of the population of Manitoba are in areas where central electric station power is now available to them and the Commission serves more than 101,000 customers. The only farms remaining to be served are those in isolated pockets that may feasibly be added to the Commission's system and farms in areas already served by electric power but whose operators have not yet availed themselves of the opportunity of taking service.

Saskatchewan.—The Saskatchewan Power Corporation, established Feb. 1, 1949, operates under the provisions of the Power Corporation Act, 1950 (S.S. 1950, c. 10), as amended. It succeeded the Saskatchewan Power Commission which operated from Feb. 11, 1929 to Jan. 31, 1949. The main functions of the Corporation are the generation, transmission, distribution, sale and supply of electric energy and steam. Since 1952 the Corporation has been authorized to produce or purchase, and to transmit, distribute, sell and supply natural or manufactured gas.

Particulars of the operations of the Saskatchewan Power Commission during the period 1929 to 1948 and of the operations of the Saskatchewan Power Corporation during 1949 to 1953 are given in earlier editions of the Year Book.

The Corporation is experiencing extensive growth. In 1953 it served 661 urban communities (with six or more customers) in retail sales and three urban communities (Saskatoon, Swift Current and Battleford) in bulk sales. Activities of the Corporation are extended to the entire Province with the exception of such cities as Regina and Weyburn which own and operate municipal plants and distribution systems and Moose Jaw where the local plant and distribution system is owned and operated by National Light and Power Company Limited. A number of small communities, the largest being the town of Kamsack, are not yet served by the Saskatchewan Power Corporation. Some of these utilities, mostly privately owned, were taken over by the Corporation in 1954.

At the end of 1954 the Corporation served 134,587 customers, of whom 23,580 were located in communities which were supplied with power in bulk sales and 111,007 were Corporation retail customers. The latter comprised 87,142 customers in communities

considered as urban and 23,865 customers classified as rural, predominantly farmers. During 1954 all these customers absorbed 472,763,014 kwh. of which 429,171,476 kwh. were generated in Corporation plants and 43,591,538 kwh. were purchased in bulk from Regina and from National Light and Power Company utilities. At the end of the year the investment of the Provincial Government in Corporation assets amounted to \$58,947,187.

During 1954 the Saskatchewan Power Corporation owned and operated four steam generating plants (at Estevan, North Battleford, Prince Albert and Saskatoon) and 10 diesel plants with capacity of over 500 kw. each (at Assiniboia, Hudson Bay, Maple Creek, Meadow Lake, Moosomin, Shaunavon, Swift Current, Unity, Wynyard and Yorkton). The total available capacity of the Corporation in generating plants at the end of 1954 was assessed at 160,080 kw., of which 139,100 kw. was located in steam plants and 30,980 kw. in diesel plants.

At the end of 1954 the Corporation owned and operated 25,356 miles of transmission and rural lines. Of this total 6,475 miles of line were added to the system in 1954 comprising 315 miles of 72,000 volt line, (Saskatoon-North Battleford, Estevan-Red Jacket, Weyburn-Assiniboia, and Cantuar-Fosterton), 310 miles of 25,000 volt line, and 5,850 miles of 14,400 volt line in connection with rural electrification. Large substations were built in 1954 with a total capacity of 38,000 kva.

23.—Growth of Saskatchewan Power Corporation (formerly Commission) 1945-54

NOTE.—Figures for 1929-33 are given at p. 499 of the 1947 Year Book and for 1934-44 at p. 578 of the 1950 edition.

Year	Communities Served in Bulk and Retail Sales	Individual Meters in Communities Served	Power Distributed	Revenue
	No.	No.	kwh.	\$
1945.....	150	40,968	106,539,448	2,677,289
1946.....	229	45,495	118,990,127	3,141,652
1947.....	320	63,805	160,420,859	4,442,507
1948.....	366	71,009	186,834,305	5,058,142
1949.....	420	78,389	202,135,947	5,629,372
1950.....	454	84,361	235,926,656	6,363,597
1951.....	535	93,923	278,826,919	7,159,876
1952.....	582	107,942	332,674,176	8,553,619
1953.....	631	122,676	398,211,673	10,363,752
1954.....	664	134,587	472,763,014	11,936,234

Alberta.—Public ownership of power generating and distributing systems in Alberta is confined to certain urban municipalities. The regulatory authority over privately owned systems is the Board of Public Utility Commissioners which has jurisdiction over the distribution and sale of electricity. The Board has power to hold investigation upon complaint made either by a municipality or by a utility company and, following such investigation, may fix just and reasonable rates.

There are three private utility services in the Province: Calgary Power Limited, Canadian Utilities Limited, and Northland Utilities Limited. A synopsis of these services is given below.

Calgary Power Limited.—This Company has nine hydro generating plants on the Bow River and its tributaries, west of Calgary, namely: Horseshoe Falls, Kananaskis Falls, Ghost River, Cascade, Barrier, Spray, Rundle, Three Sisters and Bears paw. At Dec. 31, 1953 the Company's total plant capacity was 206,550 h.p. All the plants except Horseshoe Falls are operated by remote control from the Kananaskis Falls Plant.

The Company has four reservoirs on the Bow River and its tributaries:—

Lake Minnewanka.....	180,000 acre-feet
Interlakes (Kananaskis Lakes).....	90,000 acre-feet
Spray Lakes.....	200,000 acre-feet
Ghost.....	74,000 acre-feet

An agreement with the City of Medicine Hat provides an additional 33,500 h.p. to the Company from the city's steam plant. Power from these plants is fed into a transmission network which supplies the entire electrical requirements of the cities of Calgary, Red Deer and Wetaskiwin, about 379 towns, villages and hamlets, and a substantial industrial load in central and southern Alberta. This transmission network is also connected with the municipal utilities of the cities of Edmonton and Lethbridge, Canadian Utilities Limited at Drumheller, Vegreville and Vermilion, and the East Kootenay Power Company in the Crowsnest Pass.

During 1955 two additions to the hydro system are scheduled for completion; these are the Pocaterra and Interlakes hydro-electric plants of 18,500 and 6,900 h.p. respectively.

The Company has about 4,100 miles of main transmission lines and 675 miles of distribution lines extending from Westlock in the north, Milk River and Waterton in the south, and from Chauvin, Macklin (Sask.), Brooks and Bow Island in the east, to Nordegg, Banff and Crowsnest Pass in the west. The cities of Calgary and Red Deer, and the towns of Ponoka, Fort Macleod and Cardston are supplied on a wholesale basis, but all other points on the same system are supplied on a retail basis. At June 30, 1955 electric pumping service was being supplied to over 2,000 oil wells, as well as service directly to other sectors of the oil industry, such as gathering stations, refineries and pipeline pumping. Service was also provided to other industrial plants near Edmonton.

An extensive farm electrification program is in progress in Alberta and at Dec. 31, 1954 the Company was serving 22,561 farms. The program calls for the addition of from 3,000 to 4,000 farms each year for several more years. Calgary Power constructs, operates and provides for the engineering of these co-operatives through a non-profit subsidiary (Farm Electric Services Limited), energy being supplied to the farm co-operative consumers at cost.

All statistics quoted are as at May 30, 1955 with the exception of the miles of line, which are quoted as at Dec. 31, 1954.

Canadian Utilities Limited.—Towns and villages to the north, east and west of Drumheller are supplied by a 19,000 kw. coal fired steam plant in that city. Towns and villages north and east of Vegreville are served by a 16,500 kw. plant in Vermilion having 9,000 kw. in gas fired steam equipment and 7,500 kw. in a gas turbine. Towns and villages east, north and west of Grande Prairie are served by two internal combustion plants. One, situated in Fairview, has 1,200 kw. in a natural gas unit—the other in Grande Prairie has 3,195 kw. in diesel and gas diesel installations. The Company has one plant in British Columbia—a 900 kw. gas diesel station in Fort St. John. There are tie lines with the Calgary Power Limited system at Vermilion, Vegreville and Drumheller. The Company serves over 32,900 customers in approximately 275 towns, villages and hamlets, including 108 Rural Electrification Associations in the Province, through a network of approximately 2,660 miles of transmission and distribution lines in addition to 5,300 miles of Rural Association lines. Since 1949 rural electrification in the territory served has been extended to farmers on a co-operative basis whereby the farm or Rural Electrification Association system is constructed and operated at cost for the farmer by the Company. Over 7,000 farmers are now receiving electric power service.

Northland Utilities Limited.—This Company, with headquarters at Edmonton, supplies electric energy to 5,923 consumers in 26 communities. Diesel generating plants are located at Jasper, Athabasca, High Prairie, McLennan, Peace River, Lac La Biche, Manning, Fairview and at Hay River, N.W.T. Low voltage transmission lines extending from these generating stations supply electricity to 707 farms and 17 villages. The Company also operates a hydro plant at Jasper.

Northland Utilities Limited serves 1,600 consumers with natural gas at Dawson Creek and Pouce Coupé, B.C. In Alberta natural gas service is supplied to 1,858 consumers in Fairview, Bluesky, Grande Prairie, Sexsmith, Rycroft and Spirit River.

British Columbia.—The British Columbia Power Commission was appointed Apr. 17, 1945 under the provisions of the Provincial Electric Power Act. Operations were commenced in August 1945 with the acquisition of electrical properties in several parts of the Province. The following statement shows the growth in the number of customers from 1947 to April 1955:—

Year Ended Mar. 31	Services Acquired	Services Installed	Total Services for Period	Cumulative Services to End of Period
	No.	No.	No.	No.
1948.....	1,000	3,431	4,431	27,470
1949.....	831	3,318	4,149	31,619
1950.....	4,686	3,321	8,007	39,626
1951.....	473	4,075	4,548	44,174
1952.....	103	2,600	2,703	45,912
Sold June 1951.....	—325	—640	—965	
1953.....	—	3,597	3,597	49,509
1954.....	—	3,264	3,264	52,773
1955.....	523	3,261	3,784	56,557

All phases of the Commission's operation continued to expand during the fiscal year ended Mar. 31, 1955. Greater milages of transmission and distribution lines were built than in any of the preceding three years and the additions in each type of circuit amounted to more than 10 p.c. of the previous totals. Power requirements increased by 18.3 p.c. over the previous year, an advance attributable almost equally to the energy needs of the power districts and the bulk sales customers. These figures correspond closely with the revenue growth from the two classifications and together average 15.8 p.c. Average monthly residential power use reached 233 kwh., an increase of 14 p.c. over 1954, and well over three times the figure of 74 kwh. recorded at the end of March 1947. Expenditures increased by 15.3 p.c. which compares favourably with the 15.8 p.c. rise in revenues for the period. The resulting operating surplus was \$652,188, an increase of 22.8 p.c. over the 1953-54 operating surplus.

Construction of two hydro-electric plants was completed in May 1955. The Puntledge River Development near Courtenay, Vancouver Island, adds 35,000 h.p. to the Commission's Vancouver Island system, heretofore served entirely by the 168,000 h.p. John Hart Development on Campbell River. Another Vancouver Island hydro development is under way on Campbell River. An initial installation of two generating units with a total capacity of 70,000 h.p. is scheduled for completion in the latter half of 1956, with a third 35,000 h.p. unit to follow later. A storage dam farther up Campbell River, at Upper Campbell Lake, has been authorized and is slated for completion in 1957, with additional storage and 70,000 h.p. generating capacity to follow at the same site in 1958.

The 5,500 h.p. Spillimacheen River Development replaced two diesel electric stations serving the Columbia Valley.

Expansion of diesel electric stations that serve areas where it is neither feasible nor possible to provide power from a hydro source continues, together with transmission and distribution extensions, as load growth indicates.

24.—Growth of the British Columbia Power Commission, Years Ended Mar. 31, 1951-55

Item	1951	1952	1953	1954	1955
Customers..... No.	44,174	45,912	49,509	52,773	56,577
Installed plant capacity..... kw.	100,350	123,845	124,415	174,255	176,866
Circuit Miles of Line—					
Transmission (high voltage)..... miles	550	570	590	624	689
Distribution primaries..... "	2,393	2,541	2,704	2,995	3,301
Power Requirements—					
Generated..... kwh.	255,556,217	375,935,761	524,502,927	687,158,106	812,793,062
Purchased..... "	11,932,279	2,817,547	2,350,721	9,962,128	12,016,339
Totals, Power Requirements. kwh.	267,488,496	378,753,308	526,853,648	697,120,234	824,809,401

24.—Growth of the British Columbia Power Commission, Years Ended Mar. 31, 1951-55
—concluded

Item	1951	1952	1953	1954	1955
Annual revenue..... \$	4,064,641	4,895,230	5,902,344	7,103,853	8,227,331
Capital Investment—					
Generation plant..... \$	18,384,774	24,748,127	26,488,225	33,678,194	35,100,468
Transmission plant..... \$	5,760,593	8,206,878	10,292,020	11,686,982	13,204,511
Distribution and general plants.. \$	9,945,223	12,359,770	14,201,418	15,957,640	18,095,779
Totals, Capital Investment... \$	34,090,590	45,314,775	50,982,563	61,322,816	66,400,758

Sources of power for the year ended Mar. 31, 1955 were as follows:—

<i>Source of Power</i>	<i>kwh.</i>	<i>p.c.</i>
Hydro-electric energy.....	750,422,887	91.0
Diesel electric energy.....	62,370,175	7.5
Steam electric energy.....	—	—
Purchased power.....	12,016,339	1.5
TOTALS.....	824,809,401	100.0

The Northwest Territories and Yukon Territory.—The Northwest Territories Power Commission was created by Act of Parliament in 1948 to bring electric power to points in the Northwest Territories where a need developed and where power could be provided on a self sustaining basis. By legislation passed in 1949 the Act was extended to include Yukon Territory.

The Northwest Territories Power Commission has authority to construct and operate power plants as required in a territory having an area of over 1,500,000 sq. miles. The Commission is continually investigating power needs in this large area and studying reports on hydro-electric power sites.

The Commission has a hydro-electric power development in operation on the Snare River about 94 miles northwest of Yellowknife, N.W.T. Power has been supplied from this plant to the mines in the Yellowknife area since the autumn of 1948 and in the summer of 1949 a transmission line connection was completed to augment the supply of power to the town of Yellowknife.

A diesel generating station and distribution system was put into operation at Fort Smith, N.W.T., in October 1950. This project supplies the various government establishments at Fort Smith, e.g., the Departments of Northern Affairs and National Resources, Transport, National Defence (RCCS), Health and Welfare, and Public Works as well as the Royal Canadian Mounted Police and private commercial consumers and residents of the settlement.

A hydro-electric development was completed on the Mayo River approximately six miles north of Mayo Landing, Y.T., in December 1952. This plant is delivering power to the mining developments in that area and to the settlement of Mayo Landing.

The total capital investment of the Commission as at Mar. 31, 1955 was approximately \$8,863,680.

Section 3.—Total Development of Electric Power from All Available Sources

In Section 1 of this Chapter total water power resources are given with the proportion that so far has been developed. Table 3 of that Section analyzes the hydraulic turbine installation by the proportions in central electric stations, in pulp and paper mills and in other industries. This is useful but does not take into account electric power developed in central electric stations or in other industries from sources other than hydraulic.

Section 2 covers the central electric station industry including stations under public ownership (provincial and municipal governments) and those under private ownership. Neither of these Sections however gives a complete presentation of the total electric power developed in Canada. All the hydraulic energy developed is not converted to electric power: there are a number of water wheels and water turbines used for direct drive that are not geared to electric generators. On the other hand certain central electric stations in the Atlantic Provinces, Ontario and the Prairie Provinces generate electricity from steam or internal combustion engines. It is the purpose of this Section to show the total electric power generated from all available sources. Most of the power comes of course from central electric stations, the figures having been given in Table 4 of Section 2, p. 561. The total kilowatt hours of electric power generated by central electric stations, is divided into that generated from water power and that generated from thermal engines of all kinds.

Table 25 shows that total electric power generated by central electric stations in 1953 was 62,860,927,000 kwh. For a complete presentation the power generated by manufacturing industries for their own use and the power generated by the primary mining industry for use in its own operations must be added. There are a few other sources of electric energy included such as electric railways which produced 10,579,000 kwh. in 1953. This production has been taken into the annual total shown in Table 25. There are numerous small lighting and power plants on farms, rural homes, summer resorts, stores, etc., where electricity from central electric stations is not available and for which no data are available.

25.—Total Power Generated by Central Electric Stations, Manufacturing and Mining Industries 1944-53

NOTE.—Figures for the years 1927-43 will be found in the 1948-49 Year Book, p. 516.

Year	Central Electric Stations		Manufacturing Industries		Mining Industries		Total ¹
	'000 kwh.	p.c.	'000 kwh.	p.c.	'000 kwh.	p.c.	'000 kwh.
1944.....	40,598,779	93.2	2,752,125	6.3	210,554	0.5	43,571,276
1945.....	40,130,054	93.9	2,362,260	5.5	201,765	0.5	42,720,374
1946.....	41,736,987	93.4	2,714,261	6.1	199,950	0.4	44,662,916
1947.....	43,424,799	92.1	3,467,535	7.4	269,412	0.6	47,174,384
1948.....	42,389,681	89.7	4,590,677	9.7	270,522	0.6	47,262,060
1949.....	44,418,573	87.8	5,898,390	11.7	263,835	0.5	50,592,990
1950.....	48,493,718	88.1	6,266,051	11.4	264,232	0.5	55,036,765
1951.....	54,851,844	89.3	6,369,094	10.4	212,832	0.3	61,446,787
1952.....	59,409,198	89.9	6,450,729	9.8	234,431	0.3	66,103,533
1953.....	62,860,927	89.8	6,901,443	9.9	215,337	0.3	69,988,286

¹ Includes power generated by electric railways for their own use.

CHAPTER XIII.—THE FISHERIES

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Canada has the enviable position of being the country closest to some of the world's most prolific fishing grounds and as a result is one of the world's principal fish producers and fish exporters. Rich harvests are drawn from both the Atlantic and Pacific as well as from many freshwater lakes and rivers.

An article on "Canadian Commercial Fisheries Resources" giving a detailed account of the Atlantic, the Pacific, the freshwater and the northern fisheries will be found in the 1955 Year Book, pp. 578-590.

Section 1.—Trends and Developments in the Fisheries Industries *

Nineteen fifty-four was a year of generally satisfactory progress in both the economic and the technological sense for the Canadian fishing industry. Total landings of fish and fish products amounted to slightly over 2,000,000,000 lb. with a gross landed value of \$98,000,000. Average returns, with few exceptions, compared favourably with those of 1953. Marketed value of 1954's production was recorded as \$164,000,000 with a record total value of exports of \$132,600,000. Substantial numbers of new vessels were added to the fleets on the Atlantic and Pacific coasts and fish processing capacity—especially that of fresh fish in the Atlantic area—was expanded.

Production on the Pacific coast in 1954 was highlighted by a record halibut catch and the heaviest catch of sockeye salmon since 1913. The herring fishermen in this area reported their first full calendar year's production since 1951. A total of 600,000,000 lb. of fish was landed with a gross landed value of \$34,500,000 and marketed value was \$69,000,000. New vessel construction in 1954 totalled 77 vessels.

The Pacific coast industry has developed into a well organized, modernly equipped industry—without special encouragement. The continued restoration of the Fraser River sockeye salmon run is perhaps the most important event which has occurred in the Pacific area and marks the climax of years of rehabilitation. The increasing demand however for the use of Pacific coast river systems for power and other purposes has caused foreboding about the future of some of the salmon stocks.

In the Atlantic area landings of cod and haddock increased significantly in 1954 especially on the northeast Newfoundland coast. Newfoundland fishermen landed 607,400,000 lb. of fish with a landed value of \$14,700,000 and a marketed value of \$28,000,000. Total landings of all species for the Maritime Provinces and Quebec amounted

*Prepared by F. H. Wooding, Director of Information, Department of Fisheries.

to 730,000,000 lb. with a gross landed value of \$36,000,000 and marketed value totalling \$75,000,000. A number of new long-liners and about thirty-six draggers of various sizes operated for the first time out of Atlantic mainland ports, six trawlers were added to the Nova Scotia fleet and eleven vessels were added to Newfoundland's offshore fleet. A new filleting plant was built on the mainland and operations were resumed at another. New freezing facilities were established in five localities in Newfoundland and construction of two more plants was well under way by the end of 1954. Existing processing capacity was expanded considerably throughout the area.

The most significant developments in the Canadian fishing industry in recent years have occurred in the sea-fisheries of the Atlantic coast. The widely dispersed character of the industry in this region and certain characteristic rigidities of a socio-economic nature have tended to retard development in some areas; although a fleet of larger sea-going vessels has grown steadily since World War II and processing capacity has expanded, nevertheless progress has been limited in geographic extent.

To encourage further development the Federal Government announced a policy of co-operation with provincial administrations in a positive program of modernization for the industry, since elaborated through study and experience. The plans and policies which have been developed vary among the several provinces and involve federal and provincial agencies as well as municipal agencies, private firms and individuals; they extend into the fields of education and social organization as well as industrialization proper. A number of projects have been started and others are in the planning stage.

In the Atlantic coast industry, direct forms of government activity include loan schemes, public works projects (for harbour improvement) and research and demonstration in the fields of marine biology and food processing technology. Much of the credit for the progress recorded to date should go to private enterprise—ranging from fishing skippers operating on a small scale to business and industrial firms representing relatively large aggregates of capital and management.

In the primary fisheries of the Atlantic coast region the inshore fishery has declined in most areas with the increasing emphasis on fresh-fishing operations on the offshore banks which has contributed to the expansion of the fleet of larger fishing craft. Each of the Atlantic coast provinces now has a program of fleet modernization, the new vessels being equipped with modern navigational and fish locating devices. An increasing proportion of the vessels are owned by the fishermen themselves. Moreover the trend toward concentration of fishermen in ports with fresh fish processing facilities is providing at least a partial solution to the obstinate problem of isolation.

The fish processing industry in the Atlantic region has also made impressive advances. Fresh fish processing capacity has expanded rapidly with the addition of new filleting and freezing plants in the Maritime Provinces, Quebec and Newfoundland. Existing plants have been adapted to turn out new products such as blocks of frozen fillets which are used in the manufacture of 'fish-sticks' in raw and precooked forms. Increasing emphasis is being placed on the quality of product and greater care is being taken to ensure sanitary conditions throughout the various processing stages.

Although production, to a considerable extent, has been shifted from the cured to the fresh product, salt fish production continues to be a major part of the industry in Newfoundland. The traditional home curing of fish is now giving way to mechanized operation, which gives promise of a standardized form of product. This in turn will enable the Newfoundland industry to compete more successfully with other salt fish producing countries and with the industry on the Canadian mainland.

There has also been considerable improvement in the method of transporting fish products and in their distribution through the wholesale and retail trade. New refrigerated storages provide inland centres with continuous supplies of nearly all species and products.

Greater care is being taken in the handling and transshipment of small lots so that fish products are now more readily available in the smaller inland urban communities. The retail trade appears to have a greater awareness of the potential market for fishery products and of the problems connected with handling them. Packaged fish in many forms from all the important fisheries of Canada are attractively displayed in modern retail stores. The effects of these improvements have been felt to some extent in the freshwater fishing industry and some development has taken place in the processing industry in the inland areas as well. Landings in the freshwater fisheries totalled 116,200,000 lb. in 1954 with a gross landed value of approximately \$12,700,000. Marketed value of the year's production was approximately \$19,600,000.

The progress in the Canadian fisheries outlined above has occurred in a favourable economic climate of general growth, a substantial rate of population increase and general expansion of trade. Intensified efforts on the part of industry and government have created opportunities for the Canadian fishing industry in domestic and foreign markets and in addition import restrictions were either removed or relaxed in a number of traditional markets during 1954.

Problems arising from the heavy stock of canned salmon in the early part of 1953, the oversupply of fresh and frozen groundfish filets in the latter part of 1953 and early 1954 and the difficulties in moving the 1953 production of salt fish were however causes of concern to the industry and there have also been short-run problems for a limited number of other species and products.

The Canadian fisheries industry exports about two-thirds by value of its annual production; since World War II, sales to the United States have increased to approximately 70 p.c. of total exports. This excessive dependence upon one export market affects all of the major fisheries of Canada and remains one of the unresolved problems facing the industry.

To meet commitments under international agreements (*see* p. 588), the Canadian Government has stepped up the pace of its research in the fields of marine biology and technology and in government fisheries administration. Administrative and organizational changes in the Fisheries Research Board of Canada of the Federal Department of Fisheries have brought this organization into closer relation with other branches of the Federal Service and with the fishing industry. Government bodies at all levels have become more conscious of the importance of the fisheries to the general economic welfare of many areas of Canada and have accordingly improved their administrative services to the industry.

In the socio-economic realm there is a deeper concern for the welfare of the primary producer, i.e., the fisherman. In 1954 a Federal Indemnity Fund was instituted to provide low cost vessel insurance to small boat fishermen on both coasts and insurance for loss of and damage to fishing gear is being provided on an experimental basis. This Fund provides a partial solution to the problem of loss compensation in circumstances and under conditions in which private insurance companies have found it impossible to operate except at very high cost. A Federal Act facilitates provision through the chartered banks of intermediate term credit loans to fishermen, to complement in part the long term loan services provided by several provincial governments for the purchase of vessels.

Much has been accomplished in the development of the industry but many problems remain. On the Atlantic coast in particular, greater concentration of fishing activities in ports with modern fish handling facilities is urgently needed, as well as considerable improvement in methods of processing and marketing fish products and in systems of grading and determining prices. Greater diversification of products is also necessary. Steps are being taken to bring the results of research to fishermen and to fish processors and handlers in the expectation that this knowledge will help in solving some of the problems outlined.

Section 2.—Governments and the Fisheries

Subsection 1.—The Federal Government*

The British North America Act gave the Federal Government full legislative jurisdiction for the coastal and the inland fisheries of Canada. Under the Act, laws are made for the protection, conservation and development of the fisheries throughout the country. The provinces however have by agreement assumed administrative responsibilities in varying degree. Consequently though all the regulations governing fishing are made by the Federal Government the work of administering the fisheries (enforcing the different laws and regulations, inspecting fish products, issuing licences, etc.) is done either by federal officers or by provincial officers, according to arrangements made with the different provinces and without duplication of staff.

Specifically all tidal or sea fisheries except those of Quebec are administered by the Federal Department of Fisheries while the freshwater or non-tidal fisheries, with some exceptions, are administered by the provincial departments. Quebec takes responsibility for all its fisheries including those in salt waters. Ontario, Manitoba, Saskatchewan and Alberta look after their freshwater species. In British Columbia and Newfoundland provincial government control extends to the freshwater forms and the Federal Government is responsible for marine and anadromous species. In Prince Edward Island, Nova Scotia, New Brunswick, and the Yukon and Northwest Territories, the Federal Government maintains complete control; administration of the National Park areas throughout Canada is the responsibility of the Canadian Wildlife Service.

The work of the Federal Government in the conservation, development and general regulations of the nation's coastal and freshwater fisheries is performed by three agencies under the Minister of Fisheries:—

(1) The Department of Fisheries proper with headquarters at Ottawa, Ont., and area offices under Chief Supervisors at Vancouver, B.C., Winnipeg, Man., Halifax, N.S., and St. John's, Nfld.

(2) The Fisheries Research Board of Canada with headquarters at Ottawa and seven stations across Canada.

(3) The Fisheries Prices Support Board with headquarters at Ottawa.

The Department of Fisheries.—The chief responsibilities of the Department of Fisheries throughout Canada are in brief: to conserve and develop Canada's primary fishery resources; to encourage the development of the fishing industry in the national economy; to inspect fish products, establish standards of quality and promote the optimum utilization of the resource; and to develop a proper public understanding of the resource and the industry.

The larger part of the staff of the Department is stationed in the field, and is comprised mainly of a protection staff and an inspection staff. The protection officers, including those on the Department's 76 patrol and protection vessels, are concerned with the enforcement of the conservation regulations under the Fisheries Act and other Acts designed to ensure a continuing maximum yield of fish and are also responsible for the inspection of fish products and processing plants under the Fish Inspection Act and relevant sections of the Meat and Canned Foods Act.

The conservation program is carried out by the Conservation and Development Service of the Department. Protection officers not only enforce regulations pertaining to restricted areas, close seasons, limitations in location and types of gear but also inspect spawning streams and keep them clear of obstructions. Biologists investigate such problems as pollution and water supply, and the engineers of this Service construct fishways to enable fish to bypass dams. Hatcheries are maintained to restock waters where the fisheries are under federal administration.

* Revised by the Department of Fisheries, Ottawa.

Inspection of fish and fish products to ensure a high standard of quality is carried out by the Inspection and Consumer Service and fish inspection laboratories are maintained on the Atlantic and the Pacific coasts. This Service also has a staff of home economists in Ottawa who operate a test kitchen and carry out demonstrations and lectures on methods of preparing and cooking fish and fish products. Other home economists are located in the field.

Through the medium of printed material, films, radio and exhibitions, the Information and Educational Service of the Department informs the public on the various aspects of the industry and the work of the fisheries service with the object of developing a better understanding of the resource and those engaged in its exploitation. This Service works closely with the Conservation and Development Service in matters concerning the conservation of fisheries and with the Inspection and Consumer Service toward encouraging increased consumption of Canadian fish products in the United States and other markets for Canadian exports.

The Economics Service has two related fields of responsibility: (a) to provide the government and the commercial fishing industry with current information, including statistical data, under the general heading of trade intelligence, and (b) to carry out studies and investigations in the primary fisheries and the processing and distribution of fish products. In the first field, the Service works in close co-operation with the Dominion Bureau of Statistics and the foreign trade branches of the Department of Trade and Commerce; in the second, there is similar collaboration with the Fisheries Research Board. In both, a necessary contribution is made to the formulation of policy for fisheries management, industrial development and market services.

In addition to providing these regular services the Department assists the commercial fishing industry in several special ways. For the purpose of promoting efficient primary fishing operations and improving the marketing of fishery products, assistance is provided for the construction of draggers and long-liners and for bait-freezing and storage facilities on the Atlantic coast. For each new trawler built in Canada the owner is eligible for a licence to operate a used trawler imported from either the United Kingdom or the United States and registered in Canada after payment of duty. An applicant wanting only one trawler may import a used one from the United Kingdom without having to lay down a new keel in Canada. This policy applies to ships purchased from any country entitled to most-favoured-nation treatment in accordance with Canada's obligations as a signatory of the General Agreement on Tariffs and Trade.

The Fishermen's Indemnity Plan affords low cost protection from losses of boats and lobster traps through storms and other causes. The Plan, in operation since 1953, meets a long standing need on the part of small scale individual fishermen. Vessels valued at from \$250 to \$7,500 may be insured with payment of a premium of 1 p.c. of the appraised value. As at Mar. 31, 1955 a total of 2,359 fishing vessels with an appraised value of \$3,936,607 were issued insurance under the Plan.

The lobster trap protection plan provides that generally speaking any lobster fisherman having 32 or more traps may obtain protection up to approximately 50 p.c. of their value for premiums ranging from 5 cents to 35 cents per trap, depending on the length of the season and on the value of the traps.

The Department also provides assistance in the education of fishermen by making payments to educational institutions that have agreed to carry out educational work among them.

The Fisheries Research Board.—The Fisheries Research Board of Canada was established in 1937 to succeed the Biological Board of Canada. The Board functions as the scientific arm of the Department of Fisheries and seeks to improve and expand Canadian fisheries through scientific research. It operates four biological research stations, two oceanographic groups, three technological research stations, an engineering service and a unit which devotes its activities to research on sea mammals and studies of fisheries in Canada's Arctic.

The Board consists of a full time chairman and up to eighteen members appointed by the Minister of Fisheries from among outstanding Canadian scientists in fields related to the Board's work and businessmen well acquainted with fishing and the fish trade.

The biological work of the Board is designed primarily to provide a general scientific basis for the conservation and the wise management of Canada's vast marine and freshwater fishery resources. Investigations include the life histories of the various species of commercial importance, their population dynamics, their diseases and enemies. Also investigated are positive cultural methods or 'farming' in areas where some control of the environment is possible, new fishing grounds are sought and experiments in improvement in fishing methods undertaken. The biological work on the east coast is divided between biological stations at St. Andrews, N.B., and St. John's, Nfld.; Arctic work is directed from Montreal, Que.; work on freshwater fishes is directed from a station in Winnipeg, Man.; and the west coast work is directed from a station in Nanaimo, B.C.

Oceanography includes the study of the biological, chemical and physical aspects of the marine and freshwater environments of fishes and other aquatic organisms of importance. This information is necessary to understand the occurrence and distribution of the fish and is carried out by the Board's two oceanographic groups, one on each coast.

The technological studies are aimed at making the best use of Canada's fish catches. Investigations are carried on towards improving methods of preserving and processing and in the utilization of fish wastes. In recent years considerable work has been done on mechanization to further develop higher efficiency in the industry. The technological work on the east coast is done at stations in Halifax, N.S. and Grand River, Que., with applied engineering work for Newfoundland being under the supervision of a unit in St. John's, Nfld. The work on the west coast is carried on at a station at Vancouver, B.C.

The Fisheries Prices Support Board.—Under the Fisheries Prices Support Act, passed in 1944, this Board was set up in July 1947 to recommend to the Government price support measures when severe price declines occur. The Board functions under the direction of the Minister of Fisheries and consists of a chairman, who is a senior officer of the Department of Fisheries, and five members chosen from private and co-operative firms in the industry, representative of the various fish producing regions of Canada.

The Board has authority to buy quality fishery products under prescribed conditions and to dispose of them by sale or otherwise, or to pay to producers the difference between a price prescribed by the Board and the average price the product actually commands. The Board has no power to control prices nor has it any jurisdiction over operations in the fishing industry or the fish trade.

Money necessary for dealings in fishery products is available to the Board from the Consolidated Revenue Fund to a maximum aggregate amount of \$25,000,000 but only on recommendation of the Federal Treasury Board and authorization of the Governor in Council.

The Board maintains a small staff for administrative and research activities. The work is closely integrated with that of the Department's Markets and Economics Service and, where possible, services required by the Board are carried out by Department personnel. The Board has carried out field surveys on market conditions and possibilities and on factors affecting the income of fishermen in the various producing areas. The financial position of fishermen is kept under continuous review and recommendations are made to the Government on the basis of the findings. Special investigations are made when serious problems arise in particular areas.

International Fisheries Conservation.—Fisheries regulation has been recognized for some time as important for the conservation of the resources of the high seas and international treaties have had to be made. Canada's obligations under such treaties with the United States and other countries are administered by the Department of Fisheries.

Canada and the United States have led the world in joint fisheries conservation development. Major examples of this joint effort are the International-Pacific Halibut Commission, concerned with the preservation of the halibut stocks of the North Pacific and the Bering Sea, and the International Pacific Salmon Fisheries Commission, concerned with the conservation and development of the sockeye salmon of the Fraser River. Investigations carried out under the auspices of these Commissions, subsequent regulation and limitation of catches, and the construction of salmon fishways appear to have been successful in arresting and reversing an earlier trend towards depletion of these fisheries. Another example of restoring a depleted marine resource by international agreement and action is that of the fur seals of the Pribilof Islands in the Bering Sea. Under the provisional Alaska Fur Seal Agreement Canada receives 20 p.c. of the fur seal skins taken annually by the United States Government from the Pribilofs. Only surplus animals are killed.

In 1949 the Government of Canada became a signatory, along with nine other countries, to the International Northwest Atlantic Fisheries Convention which came into force in 1950. The Commission established under this Convention, with headquarters at Halifax, N.S., makes scientific investigations of the fishery resources of the northwest Atlantic. The Commission has no regulatory powers but can make recommendations to the respective governments regarding measures that may be necessary for maintaining the stocks of fish that support the international fisheries in the Convention area. Treaty signatories are: Canada, Denmark, Iceland, the United States, the United Kingdom, France, Italy, Norway, Portugal and Spain.

A step towards international action in regulating the high seas fisheries of the northern Pacific Ocean was achieved in December 1951 when Canada, the United States and Japan conferred at Tokyo. The resulting Convention was ratified by the three contracting governments and instruments of ratification were deposited at Tokyo in June 1953. The treaty is known as the International Convention for the High Seas Fisheries of the North Pacific Ocean and aims at providing the maximum sustained yield of the fishery resources of the northern Pacific non-territorial waters with each of the parties assuming obligations to encourage conservation measures. The Commission established under this Convention will study the northern Pacific fisheries, determine the application of the treaty principles and will promote and co-ordinate the scientific studies necessary for ascertaining conservation programs.

The latest, and seventh, international fisheries agreement in which Canada is a signatory is the Great Lakes Fisheries Convention, which provides for joint action by Canada and the United States in Great Lakes fishery research as well as in a program for the control of the predator lamprey in these waters. This Convention came into force in October 1955.

Canada is a member of the International Whaling Commission and is obligated to collect biological data on whales caught by Canadian vessels. Whaling operations are conducted off the Newfoundland and British Columbia coasts.

Subsection 2.—The Provincial Governments*

An outline of the work undertaken by each of the provincial governments in connection with administration of commercial and game fisheries is given in the following paragraphs.

Newfoundland.—The union of Newfoundland with Canada on Mar. 31, 1949 brought about a transfer of some responsibilities in fisheries administration. The Newfoundland Fisheries Board remained the agency of government in the supervision of salt codfish marketing but fish and plant inspection, operation of bait depots, etc., became the concern of the Federal Department of Fisheries. The Board, formerly responsible to the Government of Newfoundland through the Commissioner for Natural Resources, has been made responsible to the Minister of Trade and Commerce for Canada.

* Prepared by the respective provincial departments responsible for fisheries administration.

The Provincial Government is concerned mainly with improvement and development in fishing and production methods and has conducted experiments in long-lining and deep water trawling, in the construction of multipurpose fishing craft and in the exploration of potential fishing grounds. Steps are being taken to secure more efficient use of fisheries salt. Loans have been made available to processors for the establishment or development of fishing fleets and processing plants and to fishermen for the construction and purchase of modern vessels capable of a greater variety of fishing operations and larger production.

In 1951 the Governments of Canada and Newfoundland established the Newfoundland Fisheries Development Committee consisting of representatives of fishermen, processors and exporters, and of both Governments. The objective of this Committee was to establish the role of each sector of the industry and each government, jointly or severally, in the organization and development of the fisheries. Action has been taken by both Governments along lines recommended by the Committee in its final report of April 1953. The Newfoundland Fisheries Development Authority was set up by the Government of Newfoundland to carry out the Province's share of the development program, while the Department of Fisheries and co-operatives continues to administer provincial fisheries legislation and to undertake development work in collaboration with the Authority.

The inland waters of Newfoundland, which provide excellent sport fishing, are not commercially exploited to any significant degree. The lakes and ponds remain under the authority of the Natural Resources Branch of the Provincial Department of Mines and Resources, but the rivers and streams—the resort of migratory fish such as salmon and sea trout—passed under federal jurisdiction as a consequence of Union. Matters of conservation and guardianship are therefore mainly or wholly the concern of the Federal Department of Fisheries although, to the extent to which they affect the ponds and lakes, they are subject to provincial or joint action.

Prince Edward Island.—Tidal or sea fisheries as well as inland fisheries are regulated by the Federal Government. Through the Fisheries Division of the Department of Industry and Natural Resources the Province supplements the activities of the federal authority.

The major part of the revenue of the commercial fishermen of the Province has been provided by lobster, smelt and oyster catches. Recent developments however have increased activity in deep sea fishing. The deep sea effort centres mostly around 60 foot draggers which land their catch to filleting and production plants in the eastern section of the Island. Shore fishing for the same varieties is also carried out extensively by about 2,000 fishermen landing at various points around the shore.

Loan assistance is given to the fishermen for the purchase of boats and engines by the Fishermen's Loan Board of Prince Edward Island. Technical assistance to fishermen and industry generally is provided by the Fisheries Division of the Department of Industry and Natural Resources.

The streams of the Province are mostly spring fed and fairly constant in flow and provide excellent spawning grounds and nurseries for game fish, of which speckled trout are by far the most important. With such favourable conditions for reproduction the problem is to increase the production of trout of a size attractive to anglers. Comprehensive biological investigations are being carried on by the Fisheries Research Board to attain this objective by determining the most efficient procedure in stocking, managing and cropping. The Province provides the sites for these investigations and the Conservation and Development Branch of the Federal Department of Fisheries builds the necessary dams and supplies the fish required for experimental purposes.

The angling pressure in this Province is continuing to increase but many of the fertile and highly productive ponds have disappeared. To readjust this situation the Department has repaired dams and restored many ponds and thus opened to the public, subject to the prevailing fishery regulations, many angling areas.

Nova Scotia.—The basic responsibility for the administration of tidal and inland fisheries in Nova Scotia is undertaken by the Federal Government. The Province however supplements the activities of this authority through its Department of Trade and Industry. In practice a system of co-operative effort has been worked out between the two authorities with each free to carry out individual responsibilities and specific programs. Provincial activities fall into three sections: development, administration and research.

Development.—Development activities include engineering services, financial assistance to the fisheries industry generally, and educational services to the fishermen.

Engineering services are related to the design, construction and equipment of boats, vessels and fish processing plants. A marine engineer is employed for these services and for the extension of consultant services to all persons interested in the industry. Financial assistance is extended by way of loans for the construction and modernization of fish processing plants and to fishermen for the acquisition of boats and engines. Where the requirements of large new plants have exceeded the capacity of local authorities the Province has provided such utilities as water lines and rail sidings.

Educational services comprise instruction of fishermen in the care and maintenance of marine engines, in basic navigation and in the mending, design and construction of nets and other fishing gear. Short courses are conducted in the fishing ports by Department-employed instructors during the less active fishing seasons. This program is assisted by grants under the Canadian Vocational Training program of the Federal Department of Labour.

Administration.—The Nova Scotia Fisheries Act serves to supplement federal jurisdiction and is administered jointly by the Department of Trade and Industry and the Federal Department of Fisheries. The Act requires fish processing plants and fish buyers to obtain annual licences. These are issued by the Department of Trade and Industry only on the recommendation of inspectors of the Federal Department of Fisheries and the certification of the Department of National Health and Welfare as to compliance with standards of construction, operation and sanitation contained in federal regulations.

Information obtained from the licensing activities and other statistics supplied by the Federal Department of Fisheries enables the Provincial Department of Trade and Industry to handle inquiries about the fisheries industry.

Research.—Provincial fisheries research activities have been confined largely to the inland trout and salmon fisheries. The Department of Trade and Industry has carried out a five year program of water control on the LaHave River in the interests of salmon preservation and development; has undertaken experiments in fertilization of lakes and in partial poisoning of lakes to reduce the numbers of coarse fish competing with trout for the available food supply; and has conducted some special studies of trout populations and salmon migrations. Research activities of this nature have been continued under the direction of the Nova Scotia Research Foundation.

New Brunswick.—The commercial fisheries in New Brunswick are mainly administered by the Federal Department of Fisheries with particular attention to inspection of fish products and protection of certain species of fish and shellfish. However the Provincial Government, through the Department of Industry and Development, contributes greatly to the expansion of the fishing industry. Loans are provided to fishermen for the purchase of boats and engines, and to some fish processors for the construction and expansion of cold storage facilities.

Since 1946 over \$2,600,000 has been granted to bona fide fishermen of which over \$1,260,000 has been repaid. The Province has modernized the deep sea fishing fleet by the introduction of a most effective small dragger, 60 units of which are operating in the Gulf of St. Lawrence and four in the Bay of Fundy. To aid in the purchase of these draggers the Federal Department of Fisheries granted a subsidy of \$165 per gross ton.

The Provincial Government also provides for the development of inshore fisheries by performing experiments with new fishing techniques. Educational services are extended to deep sea fishermen by offering them practical instruction in basic navigation, rules of

the road, business administration, and care and maintenance of marine diesel engines. The Government recently introduced a Fish Inspection Act to provide for inspection of fish and fish products not intended for export outside the Province. The Provincial Department of Lands and Mines administers inland fisheries and issues fishery leases and angling licences.

Quebec.—The Minister of Game and Fisheries administers both the sea and the inland fisheries of Quebec. The Department is composed of two divisions—the Division of Maritime Fisheries and the Division of Fish and Game, the latter being charged with the administration of the inland fisheries.

Sea Fisheries.—Quebec is the only province administering its own sea fisheries. For the benefit of producers and fishermen, it provides a system of cold storage plants for the freezing and preservation of fish. Since the erection of the first plant in 1932, the network has grown to 50 plants with a daily freezing capacity of 250 tons of fish and a storage capacity of 16,000,000 lb. These cold storage plants also perform a valuable service to fishermen by providing them with frozen bait. In addition the Department owns and maintains 115 snow houses where fish may be chilled before being sent to storage or filleting plants, 40 culling sheds, and two artificial drying plants where 6,000,000 lb. of fish may be processed annually.

The Department maintains a staff of inspectors, fish wardens, technicians and technologists to administer fishery legislation and to assist in the application of new techniques for the expansion of the industry. The central administration is located at Quebec City with an office at Gaspé for the administration of cold storage plants. Statistics are compiled by the Department of Trade and Commerce in co-operation with the inspectors of the Maritime Fisheries Division.

Fish inspection is carried out under federal and provincial legislation by provincial inspectors who are vested with additional powers for export purposes by the Federal Government.

Educational work among the fishermen and producers is also conducted by the Department in order to teach the latest methods of fish preparation and obtain high quality products. The new Fisheries Training School at Grande Rivière gives to fishermen of all ages the opportunity of taking free theoretical and practical courses in fishery, and the Superior School of Fisheries at Ste. Anne-de-la-Pocatière conducts a four year course for technologists. Encouragement is given to the co-operative associations of fishermen through the Social Economic Service of the latter institution. Under a maritime credit system fishermen are able to obtain loans from credit unions for the purchase of boats and gear. The Department adheres to the federal-provincial agreement on the building of draggers and long-liners and assumes the building costs on a five year capital refunding plan.

The fish trade is being promoted by advertising campaigns in newspapers and magazines, cooking demonstrations, educational films and free distribution of fish recipes and publicity leaflets as well as by exhibits at fairs.

Hydrographical research in the Gulf of St. Lawrence, studies on the location of new fishing grounds as well as experiments on seafish biology are conducted by a Marine Biological Station at Grande Rivière and two substations on the North Shore and Magdalen Islands. This research has brought into use new types of fishing vessels recommended to fishermen. The Department also operates a Limnological Laboratory at Quebec City for studying the biology of the freshwater fish of the St. Lawrence River and tributaries.

Inland Fisheries.—The Division of Fish and Game exercises jurisdiction over the inland waters. Three hundred full time wardens are employed and licences are required for sport-fishing and hunting, the revenue from which is applied to the improvement of fishing and hunting conditions. Five hatcheries are maintained at strategic points throughout the Province: St. Faustin, Lachine, Baldwin's Mills, Tadoussac and Gaspé. These establishments distribute speckled trout, Atlantic salmon and grey trout fry, fingerlings and older fish.

The Department administers five parks or reserves in all of which, except for Mount Orford Park, excellent fishing may be found. The Gaspesian and Laurentides Parks are renowned for their trout fishing. The Chibougamau Reserve and the La Vérendrye Park, situated on the height of land, are eminently suited to canoe trips in search of pickerel, pike and grey or speckled trout. Four salmon streams, all under the jurisdiction of the Fish and Game Division are open to anglers: the Romaine River, the St. Jean River, the Petite Cascapédia River and the Matane River. The Department co-operates with sportsmen through a joint committee composed of departmental officials and the directors of the larger fish and game associations. The committee studies the maintenance of satisfactory fishing and hunting conditions and other problems arising out of the ever-changing conditions of modern life and their effect on the wildlife of the Province.

The Biological Bureau of the Province, located at the University of Montreal, and the big piscicultural laboratory at Quebec City, with its two stations for practical work located in the Trembling Mountain and Laurentides Parks, study problems connected with marine life.

Ontario.—The fishery resources of Ontario are administered by the Division of Fish and Wildlife, Department of Lands and Forests. The Division operates under the authority of the Fisheries Act (Canada), the Special Fishery Regulations for the Province of Ontario, the Ontario Game and Fisheries Act and the Regulations connected therewith.

Commercial Fishing.—The commercial fishing industry in Ontario provides employment for about 4,000 persons directly and for many more indirectly, and produces an annual yield of from 35,000,000 lb. to 45,000,000 lb. of fish. The industry, although widely scattered throughout the Province, is centred chiefly on the Great Lakes, particularly Lake Erie which is noted for its whitefish, herring and blue pickerel. Lake Superior continues to be the leading producer of lake trout. Other principal species of fish taken commercially are: yellow pickerel, herring or ciscoes, sturgeon, pike, catfish (including bull-heads), carp and suckers. Many of the smaller inland lakes are commercially fished, especially those in the northwestern portion of the Province, and careful management of these lakes is essential to ensure continued production.

The types of fishing boats in use vary from small craft to 60 foot tugs and types of gear also vary from the most common gill net, pound and trap nets, seines and baited hooks to small hand operated seines and dip nets. Fishing methods and equipment have been rapidly modernized during the past few years. Diesel driven steel-hull tugs have replaced steam driven wooden tugs. Such aids as depth sounding devices, radar, ship-to-shore and ship-to-ship communications have been developed and a better knowledge of the fish and their movements has been established from biological research findings. Modern icing facilities and transportation methods are in use as well as new types of fishing gear. Nylon gill nets are replacing cotton and linen nets and a very efficient and economical trap-net is gradually replacing the pound-net in Lake Erie and other waters.

Excellent co-operation and understanding of the complex problems involved in the administration and management of Ontario's freshwater fishing industry by the Government and the fishermen, through their local associations and the Ontario Council of Commercial Fisheries, is working to the advantage of the industry as a whole.

Angling.—In Ontario with its estimated water area of 64,441 sq. miles, angling constitutes one of the most widely distributed recreations. There are 144 different kinds of fish in the Province including such species as lake, speckled, rainbow and brown trout, yellow pickerel, black bass, pike and maskinonge. It is difficult to measure the value of sport fishing to the Province but the annual revenue alone from the sale of angling licences (mainly to non-residents, as residents require a licence for Provincial Parks only) is in the neighbourhood of \$2,000,000.

To maintain Ontario's reputation for excellent game fishing the wise management of this renewable resource is a prime factor, and a well trained field staff of conservation officers and biologists is located in the Province's 22 forestry districts.

Provincial Hatcheries.—Ontario operates 28 hatcheries and rearing stations and excellent results have been produced in the culture and distribution of the various species of both commercial and game fish. Hundreds of millions of fry and fingerlings, comprising whitefish, herring, pickerel, trout (lake, speckled, brown and Kamloops), maskinonge, bass and ouananiche are distributed annually. Three of the finest trout rearing stations on this continent are located in Ontario at Dorion near Port Arthur, at Sault Ste. Marie and at Hill Lake near Englehart.

Fisheries Research.—Research in Ontario is carried on in the Great Lakes where commercial fisheries problems are being investigated, and in inland waters where game fish populations are being studied. The Manitoulin Island station conducts studies relating to the removal and utilization of the less valuable species and the effects of this removal on stocks of the more valuable commercial and game species. In Algonquin Park a careful record of angling quality is kept for a number of test lakes to allow evaluation of management techniques. Certain of the more barren lakes are being treated with fertilizer to determine the effect on microscopic organisms and fish.

The habits of lake trout and eastern brook or speckled trout are being studied to provide additional information on the proper management of these species. Many authorities believe the increase in the sea lamprey and the drastic drop in production of lake trout in recent years in Lake Huron (including Georgian Bay and North Channel) to be directly related and this has led to considerable joint research by the Ontario and Federal Governments and the State Governments in the United States. Co-operation is maintained by the exchange of biological findings and, where practicable and feasible, the results are applied in an attempt to control this menace.

Established fish management principles are applied by biologists in the various forestry districts. The program includes such projects as biological surveys and investigations, bass harvesting, coarse fish removal, sea lamprey control, creel census studies, fish tagging and other related subjects.

Manitoba.—For the calendar year 1954 the freshwater commercial fisheries of Manitoba, made possible by nearly 27,000 sq. miles of lakes and streams in the Province, yielded a catch of 28,445,000 lb. of choice edible fish, the market value of which was \$5,435,000. Fourteen varieties of fish make up the commercial catch, the most important, according to value, being pickerel, whitefish, sauger, pike and perch. In addition to commercial production, sport fishing yielded a considerable unrecorded poundage of fish.

Besides providing a large harvest of rich protein food the fisheries of Manitoba materially assist the balance of trade by the export of freshwater fish: it has been estimated that 90 p.c. of the Manitoba catch is sold to United States dealers. Employment in the fisheries is another important benefit, as in the actual fishing operations over 6,000 men are employed and at least a similar number find total or partial employment in the many industries which are dependent wholly or in part on the fisheries.

Since the fishing industry began in Manitoba approximately 75 years ago, the fishing equipment has been improved and methods of handling fish have changed to meet modern demands for a packaged product ready to serve or convenient to cook. Oars and sail have given way to high powered internal combustion engines and boats which can lift nets in almost any weather. Coarse linen gill-nets have also disappeared in favour of the finest of nylon gill-netting. In marketing, whole fish packed in ice is being replaced, in part at least, with a packaged filleted product, or even a precooked item such as 'fish sticks'. Throughout the fishing industry there is a keen appreciation of the necessity of producing a first quality product, convenient to prepare, attractively packaged, which will appeal to the eye, palate and the cook. The city of Winnipeg, it is thought, has become the largest freshwater fish marketing centre on the continent and the Provincial Department maintains a city patrol service to ensure, as far as is possible, that only fish of first quality is marketed or offered to the consumer. This patrol operates in co-operation with officials of the Federal Department of Fisheries.

To regulate the fishery operation and to ensure that seasons and limits are observed, the Fisheries Branch of the Department of Mines and Natural Resources operates a fleet of patrol boats in summer and a number of bombardier snowmobiles in winter.

Four fish hatcheries are engaged in the artificial propagation of pickerel and whitefish on commercial fishing lakes and a trout hatchery provides a supply of lake, rainbow and speckled trout for sport fishing waters at the northern extremity of West Hawk Lake in Whiteshell Provincial Park.

Saskatchewan.—The administration of fisheries in the Province of Saskatchewan comes under the Fisheries Branch of the Provincial Department of Natural Resources with head office at Prince Albert. Most of the fisheries resources are concentrated in the northern half of the Province where the lakes have always been a source of food to the fur traders, trappers, prospectors and the Cree and Chipewyan Indians who inhabit the area, and also provide food and supplementary income to the settlers and homesteaders on the agricultural fringe.

There are approximately 129 commercially fished lakes in the Province and the principal species of fish include lake trout, whitefish, pickerel, northern pike, sturgeon, cisco, Arctic grayling, goldeye, mullet, perch and burbot. The growth of the filleting industry has been of particular significance, 13 filleting and 11 packing plants having been established since 1945. That the fishery resources are important to mink ranchers in the Province is shown by the fact that in the year ended Mar. 31, 1954, 67 fur-farm fishing licences were issued and 26,981 mink were fed under these licences; 662 domestic licences and 1,543 free licences to Indians were also issued.

There has been marked development recently in sport fishing. In the fiscal year 1953-54 there were 61,384 resident and 6,650 non-resident angling licences sold, compared with 6,000 resident and 1,500 non-resident licences sold in 1945.

Emphasis in the fish cultural activities of the Province during the past few years has been on extending the range of the Arctic grayling species from the Far North into the Churchill River area, and to introduce eastern brook trout and certain warm water species into areas where preliminary study seems to indicate suitable environment. To a large extent the indiscriminate planting of fish has been discontinued. A fish hatchery is operated at Fort Qu'Appelle for the hatching of pickerel, rainbow, brown and lake trout, and two experimental ponds have been built to facilitate the study, under controlled conditions, of the introduction of warm water species from the United States. An experimental hatchery has been established at Lac la Ronge where Arctic grayling and lake trout eggs have been hatched, an Arctic grayling spawn camp in the Fond-du-lac River near Black Lake, and a pickerel spawn camp on the Montreal River near Lac la Ronge.

The management of the provincial water areas is conducted on a scientific basis. In 1947 a large-scale biological program was undertaken and more than 100 water areas have since been studied as to their productivity as well as to the interrelationship of the species and their life histories. In so far as known facts will permit, the management of the various lakes has been placed on a sustained yield basis. Experiments are in progress on the introduction of non-native species into suitable water areas. Where sport fishing pressure has increased, such as on Lac la Ronge, Last Mountain Lake and Qu'Appelle Lakes, a creel census has been established and the annual take is recorded. The Fisheries Laboratory, established in 1949 at the University of Saskatchewan, has three permanent biologists on its staff, and usually about 12 students of the University are employed each summer on biological surveys. The Fisheries Branch has conducted a program of education designed to acquaint people of the Province with the importance of scientific research and the necessity of certain regulations governing the administration of fisheries.

Alberta.—Commercial and game fishing are administered by the Fisheries Branch of the Department of Lands and Forests.

Regulations under the Alberta Fishery Act, designed to improve the packing, handling, processing, storage and quality of commercial fish, have been well received and supported

by the Alberta industry. In line with a policy for producing good quality fish, lakes in which whitefish are infected with pike tapeworm and that do not meet the quality standard have been closed to commercial fishing.

Biological surveys of many lakes and streams taken over the last 12 years have provided an opportunity to observe the result of former management policies. It was found that traditional practices of trout-stream management, including close seasons, legal minimum, feeder streams closure and hatchery plants, were inadequate or incorrect.

A new management plan has been given several years trial on the South Saskatchewan river watershed. The main streams are continuously open; the smaller streams are opened and closed in alternate years. The plan appeared to provide satisfactory angling and was extended in 1955 to include the North Saskatchewan River and Red Deer River drainages.

The minimum size limit has been removed on all trout except lake trout. Close seasons for pike, walleye and perch have been abolished. The trout rearing facilities are used largely to produce fish for planting in small lakes and reservoirs previously barren of fish. It has been found that such waters produce very fast-growing trout and that a large proportion of the planted trout survives.

British Columbia.—The Provincial Department of Fisheries was organized in 1901-02 and soon became very active in fish cultural work, building and operating fish hatcheries and instituting scientific research into various fishery problems.

Broadly speaking the administrative and regulative jurisdiction over the fisheries in British Columbia rests with the federal authority. When British Columbia entered Confederation in 1871 the Government of Canada undertook to protect, conserve and promote the fisheries of the province, and one of the important functions of the Provincial Department of Fisheries is to observe these aspects and to keep the Provincial Government informed through the appropriate Minister.

The ownership of the fisheries in the non-tidal waters is vested in the Crown in the right of the Province, as are the shell fisheries such as oyster fishing and clam fishing in the tidal waters. The authority to administer and regulate these fisheries is vested in the Province although the regulations covering them are made under federal Order in Council on the advice and recommendation of the Province.

The provincial Fisheries Act provides for the taxation of the fisheries and, under civil and property rights, for the regulation and control of the various fish processing plants under a system of licensing. Provision is also made for arbitration of disputes regarding fish prices that may arise between the fishermen and operators of the various licensed plants. The administration of the Act involves the collection of revenue and the supervision of plant operations.

Net-fishing in the non-tidal waters of the Province, including commercial fishing, is regulated and administered by the Provincial Department of Fisheries, and authority for regulation of the game fisheries in the non-tidal waters is vested in the Game Commission, a branch of the Provincial Government administration. The Game Commission operates a number of trout hatcheries and egg taking stations for restocking purposes.

The harvesting of marine plants of commercial importance in British Columbia, including the kelps, has recently been placed under the Provincial Department of Fisheries for regulation and control. Some research has been done on a few of the important species and more will be undertaken as required.

The Provincial Department of Fisheries has established a marine laboratory at Ladysmith on Vancouver Island for the purpose of conducting biological research into those species over which the Province has control, principally oysters, clams and other forms of shellfish as well as marine plants. This research is conducted with the object of encouraging the industry to produce better products more economically and of enabling the Department to regulate the various species so that maximum exploitation may be obtained on a sustained yield basis. The Department co-operates closely with the research work done by the Fisheries Research Board of Canada, particularly on the Pacific Coast.

Section 3.—Fishery Statistics*

Subsection 1.—Primary Production

The total marketed value of all fishery products in Canada (exclusive of Newfoundland) in 1954 was \$163,541,000, an increase of 9 p.c. over the \$150,453,000 marketed value in 1953, which in turn represented an increase of less than 1 p.c. over the \$149,821,000 recorded in 1952. The landings of fish (including Newfoundland) in 1954 totalled 2,039,567,000 lb. or 10 p.c. over the 1953 figure. Landings in 1953 were 1,857,197,000 lb., approximately 2,500,000 lb. less than in 1952. A substantial increase in landings in British Columbia in 1953 did not offset lowered production in the east coast fisheries. In 1954 all provinces except Quebec and Alberta showed an increase in landings. The east coast fisheries in general recovered from the 1953 decline though, except for Newfoundland, the recovery was not marked, Quebec in particular continuing to decline.

In 1953 the landings of fish in Newfoundland were listed at 510,096,000 lb., with a value to the fishermen of about \$12,208,000; in 1954 landings of 607,413,000 lb. had a value of \$14,704,000.

* Revised in the Fisheries Section, Industry and Merchandising Division, Dominion Bureau of Statistics.

1.—Marketed Values of All Products of the Fisheries 1870-1954

(Exclusive of Newfoundland)

Year	Value	Year	Value	Year	Value
	\$'000		\$'000		\$'000
1870	6,577	1915.....	35,861	1946.....	121,125
1875.....	10,350	1920.....	49,241	1947.....	123,900
1880.....	14,500	1925.....	47,942	1948.....	139,749
1885.....	17,723	1930.....	47,804	1949.....	131,138
1890.....	17,715	1935.....	34,428	1950.....	152,760
1895.....	20,199	1940.....	45,119	1951.....	175,912
1900.....	21,558	1943.....	85,595	1952.....	149,821
1905.....	29,480	1944.....	89,440	1953.....	150,453
1910.....	29,965	1945.....	113,871	1954.....	163,541

2.—Marketed Value of All Products of the Fisheries by Province 1950-54

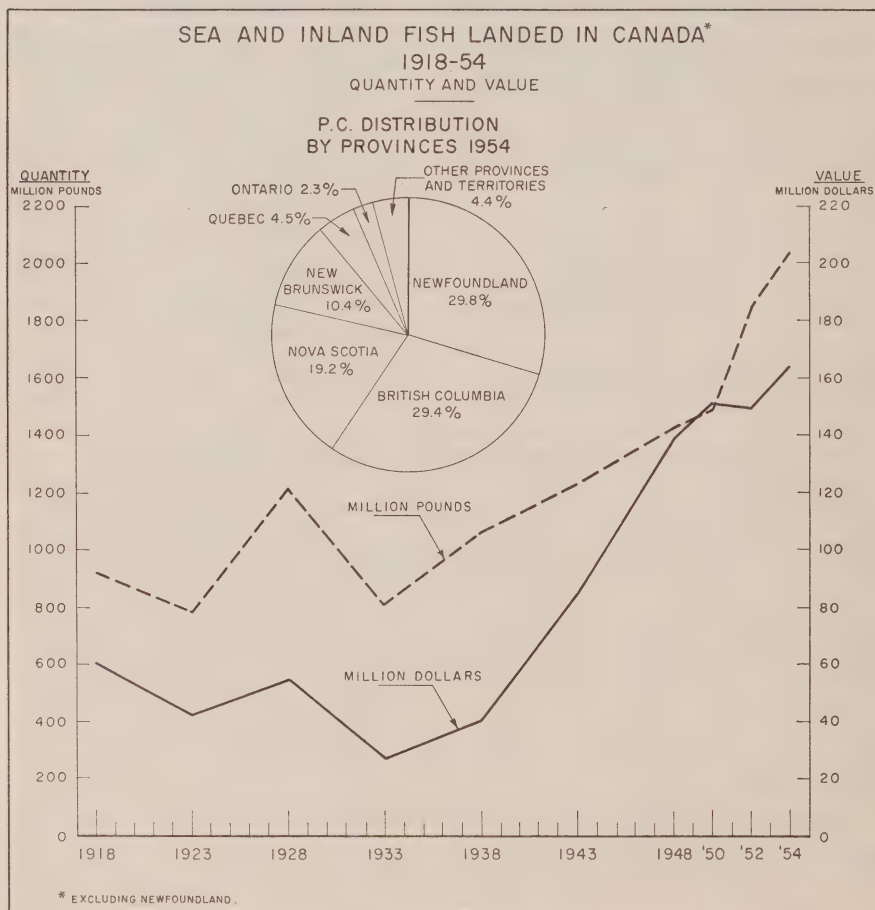
NOTE.—Figures for the years 1917-49 are given in the corresponding table of previous Year Books beginning with the 1922-23 edition.

Province or Territory	1950		1951		1952		1953		1954	
	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
Newfoundland.....										
Prince Edward Island...	3,321	2	3,213	2	3,759	3	4,049	3	3,922	2
Nova Scotia.....	38,819	25	40,314	23	42,435	28	40,012	27	44,079	27
New Brunswick.....	18,053	12	21,155	12	20,504	14	17,749	12	22,161	14
Quebec.....	5,496	4	5,511	3	6,113	4	5,804	4	5,002	3
Ontario.....	7,034	5	7,925	5	8,344	6	7,916	5	8,766	5
Manitoba.....	6,791	4	7,524	4	5,960	4	4,784	3	5,435	3
Saskatchewan.....	1,360	1	1,749	1	1,440	1	1,281	1	1,644	1
Alberta.....	768	--	862	--	943	--	1,086	--	1,141	1
British Columbia.....	68,821	45	85,397	49	58,098	39	66,260	44	69,351	43
Yukon.....										
Northwest Territories....	2,297	2	2,262	1	2,225	1	1,512	1	2,040	1
Grand Totals.....	152,760	100	175,912	100	149,821	100	150,453	100	163,541	100
Totals, Sea Fish.....	134,032	88	155,023	88	130,367	87	133,193	89	143,935	88
Totals, Inland Fish.....	18,728	12	20,889	12	19,454	13	17,260	11	19,606	12

3.—Quantity of Sea and Inland Fish Landed by Province 1950-54

NOTE.—Figures for the years 1918-49 are given in previous editions of the Year Book beginning with the 1947 edition.

Province or Territory	1950	1951	1952	1953	1954
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Newfoundland.....	—	—	551,960	510,096	607,413
Prince Edward Island.....	29,225	27,224	32,471	31,854	34,484
Nova Scotia.....	378,485	381,904	392,396	367,583	392,126
New Brunswick.....	239,671	227,038	254,599	197,206	211,576
Quebec.....	117,459	102,119	127,563	113,162	91,367
Ontario.....	32,755	30,969	38,044	44,836	47,680
Manitoba.....	31,468	35,457	31,338	23,359	28,445
Saskatchewan.....	8,731	11,512	10,612	8,481	10,524
Alberta.....	7,067	8,399	9,657	10,839	8,765
British Columbia.....	639,051	620,214	404,053	543,062	600,168
Yukon.....	—	—	—	—	—
Northwest Territories.....	7,867	7,477	7,042	6,719	7,019
Grand Totals.....	1,491,779	1,452,313	1,859,735	1,857,197	2,039,567
Totals, Sea Fish.....	1,399,819	1,353,954	1,756,806	1,750,983	1,923,382
Totals, Inland Fish.....	91,960	98,359	102,929	106,214	116,185



Excluding Newfoundland, three provinces accounted for 83 p.c. of the total marketed value of fisheries products in 1953; British Columbia's share was 44 p.c., a substantial decrease from the previous year, followed by Nova Scotia with 27 p.c. and New Brunswick with 12 p.c. Also excluding Newfoundland, the same three provinces accounted for nearly 84 p.c. of the marketed value of fisheries products in 1954; British Columbia's share was 43 p.c., New Brunswick's 14 p.c., and Nova Scotia's 27 p.c.

Table 4 shows the quantities of the main species of the commercial fisheries landed (primary products only) and values marketed (primary and secondary products). Minor items and secondary products not specifically derived from one particular kind of fish are grouped in the item "Other".

4.—Quantities Landed and Values of All Marketed Products of the Chief Commercial Fisheries 1949-53¹

(Exclusive of Newfoundland)

NOTE.—The quantity landed excludes the weight of livers but the value of liver products is included in the value for the species concerned.

Item	1949	1950	1951	1952	1953	Increase or Decrease 1952-53
Salmon (sea).....'000 lb. \$'000	149,744 37,278	186,944 49,929	199,396 61,723	148,659 41,568	188,539 48,895	+39,880 +7,327
Lobsters.....'000 lb. \$'000	38,205 14,105	44,685 16,260	45,573 17,569	44,131 18,633	41,920 19,718	-2,211 +1,085
Cod.....'000 lb. \$'000	249,291 17,004	255,729 17,242	232,439 17,463	243,150 18,108	192,487 14,149	-50,663 -3,959
Herring (sea).....'000 lb. \$'000	470,370 14,798	561,606 14,706	510,312 16,315	374,088 10,035	448,365 10,874	+74,277 +839
Halibut.....'000 lb. \$'000	22,214 5,690	29,288 8,442	27,969 8,131	27,499 7,156	29,038 7,139	+1,539 -17
Whitefish.....'000 lb. \$'000	22,509 5,690	24,776 7,057	26,506 7,640	27,894 7,295	25,571 6,502	-2,323 -793
Haddock.....'000 lb. \$'000	46,580 3,769	47,319 4,246	55,989 5,144	54,905 5,204	58,478 5,391	+3,573 +187
Pickarel (doré).....'000 lb. \$'000	13,535 2,850	13,877 3,638	17,074 4,778	16,599 4,143	15,974 3,708	-625 -435
Sardines.....'000 lb. \$'000	62,097 4,438	68,092 4,981	64,804 5,662	54,542 4,584	37,211 3,244	-17,331 -1,340
Plaice.....'000 lb. \$'000	3,784 225	9,938 834	25,201 1,944	34,326 2,522	35,385 2,299	+1,059 -223
Pollock.....'000 lb. \$'000	18,583 1,284	28,984 1,363	17,831 1,250	28,398 1,771	30,405 1,589	+2,007 -182
Lake trout.....'000 lb. \$'000	6,149 1,806	5,657 1,682	6,490 1,908	6,587 2,070	5,658 1,569	-929 -501
Clams.....'000 lb. \$'000	25,826 1,386	27,964 1,660	21,318 1,317	21,515 1,851	18,906 1,624	-2,609 -327
Mackerel.....'000 lb. \$'000	33,523 2,518	27,120 2,192	24,742 2,112	21,991 1,889	18,458 1,490	-3,533 -399
Smelts.....'000 lb. \$'000	6,876 1,212	7,154 1,317	6,523 1,347	4,815 1,086	7,665 1,336	+2,850 +250
Hake.....'000 lb. \$'000	26,578 1,522	24,789 1,260	22,312 1,181	28,386 1,584	23,648 1,193	-4,738 -391
Swordfish.....'000 lb. \$'000	2,237 805	2,156 821	2,544 1,114	3,157 1,076	3,324 1,183	+167 +107
Blue pickerel.....'000 lb. \$'000	9,831 998	8,665 1,559	4,102 919	7,447 1,181	10,399 1,171	+2,952 -140

¹ For footnote, see end of table.

4.—Quantities Landed and Values of All Marketed Products of the Chief Commercial Fisheries 1949-53¹—concluded

Item	1949	1950	1951	1952	1953	Increase or Decrease 1952-53
Alewives.....'000 lb. \$'000	17,002 693	20,917 712	29,056 998	41,056 1,321	34,221 1,016	-6,835 -305
Rosefish.....'000 lb. \$'000	2,046 142	2,070 130	4,054 310	7,999 502	17,631 973	+9,632 +471
Oysters.....'000 lb. \$'000	15,562 876	15,760 830	11,601 804	13,927 1,019	13,146 934	-781 -85
Tuna.....'000 lb. \$'000	3,190 879	2,907 859	664 1,777	823 1,667	395 875	-428 -792
Soles.....'000 lb. \$'000	6,964 580	10,471 914	10,129 1,188	14,412 1,533	6,153 870	-8,259 -663
Scallops.....'000 lb. \$'000	437 217	769 424	571 332	1,113 727	1,570 795	+457 +68
Perch.....'000 lb. \$'000	3,406 473	3,430 619	4,468 1,060	4,164 781	5,718 640	+1,554 -141
Pike.....'000 lb. \$'000	6,673 541	6,122 688	7,239 822	6,636 602	5,390 539	-1,246 -63
Saugers.....'000 lb. \$'000	7,658 1,032	5,464 1,196	4,958 1,168	4,657 822	2,662 464	-1,995 -358
Lingcod.....'000 lb. \$'000	7,263 871	4,638 523	4,746 826	4,242 542	2,943 383	-1,299 -159
Other.....'000	7,456	5,898	9,091	8,549	9,894	+1,345
Total Values..... \$'000	131,138	151,982	175,893	149,821	150,227	+406

¹ 1953 is the final year for which these statistics will be available in this form.

The value of the equipment used in primary operations of the commercial fisheries in 1954 increased to \$123,935,000 from \$104,708,000 in 1953. Of the total investment in the agencies of primary production 87 p.c. was employed by the sea fisheries.

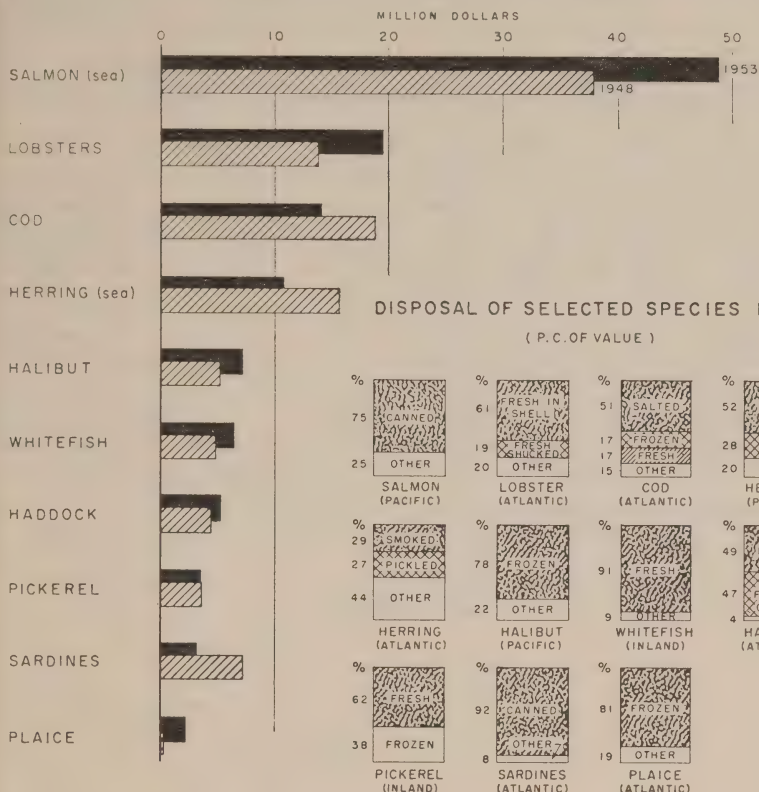
5.—Capital Investment in Sea and Inland Fisheries 1952-54

Kind of Equipment	1952		1953		1954 ¹	
	No.*	\$'000	No.	\$'000	No.	\$'000
Sea Fisheries.....:	...	87,361	...	90,132	...	108,093
Trawlers.....	19	4,077	20	4,227	30	6,315
Draggers.....	229	5,875	2,252	33,464	2,446	38,814
Vessels—gasoline, diesel and sail.....	2,121	27,638				
Boats—gasoline, diesel, sail and row.....	25,926	23,024	26,536	26,395	39,808	28,188
Packers, carrying boats and scows.....	1,198	1,709	963	1,349	1,113	2,233
Herring gill nets.....	43,079	1,174	40,858	1,227	43,695	1,226
Mackerel nets.....	25,861	790	25,503	960	25,041	757
Salmon nets, traps and seines.....	...	5,019	...	4,691	...	6,562
Smelt nets.....	14,622	584	15,790	650	13,514	536
Other nets, weirs and seines.....	...	3,684	...	3,388	...	4,547
Tubs of trawl, skates of gear, hand lines.....	69,663	1,375	75,441	1,343	110,481	1,535
Lobster traps and pounds.....	1,977,761	7,836	1,970,410	7,837	2,257,734	8,666
Other gear.....	...	690	...	788	...	971
Premises—piers, wharves, freezers, ice-houses, small fish- and smoke-houses.....	...	3,886	...	3,812	...	7,743
Inland Fisheries.....	...	14,270	...	14,576	...	15,842
Carrying boats.....	188	528	82	481	77	526
Boats, (gasoline) skiffs, canoes.....	7,943	4,360	6,226	4,564	6,826	5,028
Gill nets.....	235,465	5,271	220,217	4,882	246,254	5,421
Other nets, weirs and seines.....	...	1,321	...	1,313	...	1,340
Other gear.....	...	87	...	80	...	81
Premises—piers, wharves, freezers, ice-houses, small fish- and smoke-houses.....	...	2,170	...	2,353	...	2,343
Other equipment—fish tanks, bombardiers, trucks, snowmobiles, aircraft, etc.....	...	533	...	903	...	1,103
Grand Totals.....	...	101,631	...	104,708	...	123,935

¹ Includes Newfoundland.

CHIEF COMMERCIAL FISHERIES IN CANADA* 1948 AND 1953

VALUE OF SELECTED MARKETED PRODUCTS



DISPOSAL OF SELECTED SPECIES 1953 (P.C. OF VALUE)



* EXCLUDING NEWFOUNDLAND

6.—Persons Employed in the Primary Fishing Industry 1952-54

Persons Employed in—	Sea Fisheries			Inland Fisheries		
	1952	1953	1954 ¹	1952	1953	1954
	No.	No.	No.	No.	No.	No.
Trawlers.....	460	476	635	—	—	—
Dragners ²	594	720	1,119	—	—	—
Vessels.....	8,718	8,004	8,900	—	—	—
Boats.....	33,344	33,251	48,247	10,465	9,486	10,616
Packers, carrying boats and seows.....	797	1,047	838	126	185	172
Fishing, not in boats.....	1,953	2,270	1,770	7,803	6,699	7,446
Totals, Employed.....	45,866	45,768	61,509	18,394	16,370	18,234

¹ Includes Newfoundland.

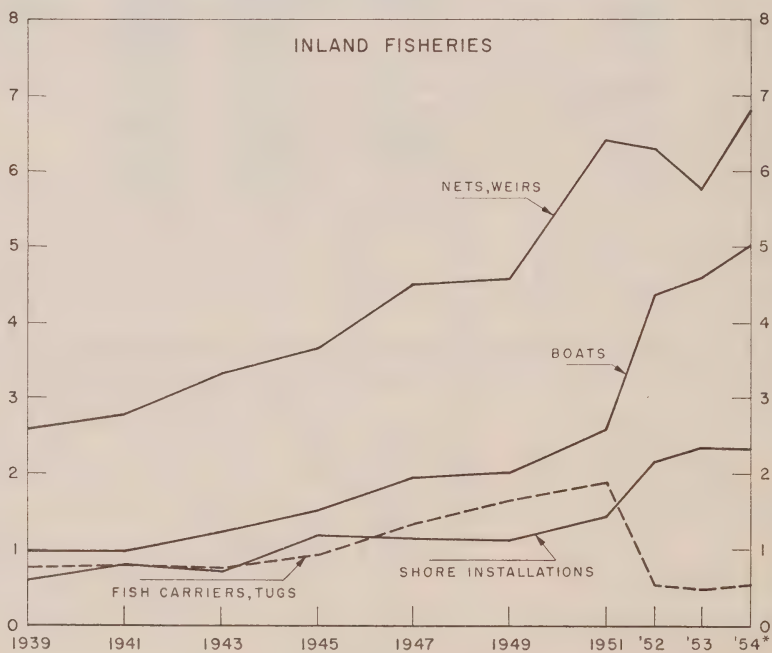
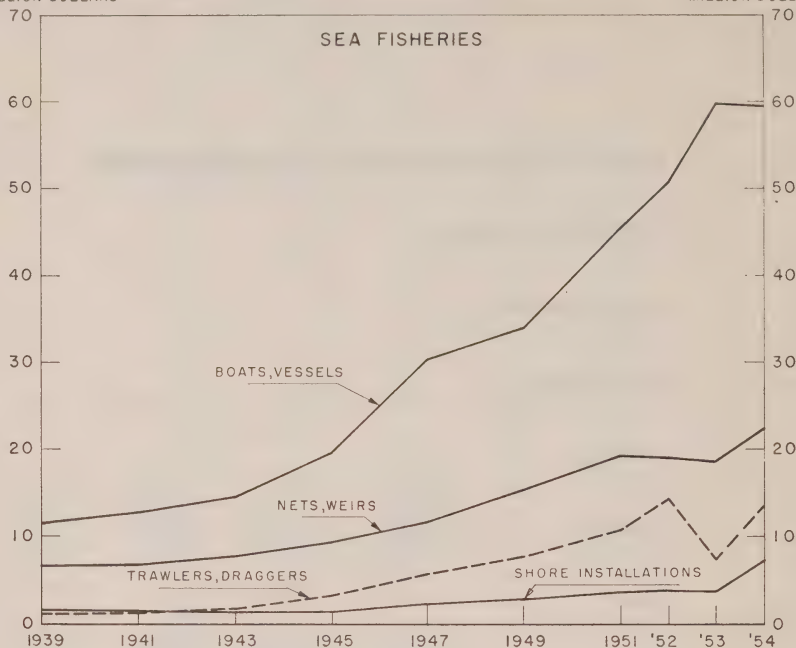
² Pacific coast dragners included with vessels.

CAPITAL INVESTMENT IN FISHERIES IN CANADA

1939-54

MILLION DOLLARS

MILLION DOLLARS



*INCLUDES NEWFOUNDLAND

Subsection 2.—The Fish Processing Industry

In 1954 a total of 586 firms were engaged in the fish processing industry in Canada (including Newfoundland). The marketed value of their products was \$153,457,000, about 12 p.c. higher than in 1953.

7.—Summary Statistics of Fish Processing Establishments 1950-54

Item	1950	1951	1952	1953	1954
Establishments..... No.	597	639	635	598	586
Newfoundland..... "	..	38	40	35	29
Prince Edward Island..... "	57	55	54	47	41
Nova Scotia..... "	208	203	198	201	184
New Brunswick..... "	170	178	176	155	166
Quebec..... "	94	96	89	82	84
British Columbia..... "	68	69	78	78	82
Employees..... No.	15,924	18,706	17,551	13,741	14,202
Male..... "	10,176	12,346	11,606	9,835	10,225
Female..... "	5,748	6,360	5,945	3,906	3,977
Salaries and wages..... \$'000	18,622	24,744	24,426	23,092	26,001
Fuel and electricity used..... "	1,729	2,724	2,533	2,410	2,605
Materials used..... "	74,446	101,621	86,458	85,908	95,633
Value of products..... "	128,968	163,010	134,725	137,310	153,457

CHAPTER XIV.—FURS

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Section 1.—The Fur Industry

The fur industry, at one time the most vigorous and remunerative industry in Canada still contributes many millions of dollars annually to the national income. Until the end of the 19th century practically all Canadian furs were wild-caught and, although fur farming has since developed rapidly, trapping still provides nearly 57 p.c. of the income from raw furs produced in Canada.

Wild fur bearers are still taken, even in settled areas of this country, but the populations of such animals have in general been so reduced by the advance of settlement that the principal trapping areas now lie in the northern parts of the provinces and the Northwest Territories. Many wild animals, including some important fur bearers, are subject to marked fluctuations in numbers from year to year, and these fluctuations are often greatest and most nearly regular in northern regions. The number of pelts of certain wild species taken annually is notably affected by these fluctuations.

Another and perhaps more important factor governing the 'take' of furs from wildlife is the fluctuation in demand and in price consequent on changes in fashion. Thus the vogue of recent years for short haired furs has caused a decrease in demand for fox and other long haired pelts and a corresponding decrease in the number of such pelts taken by trappers. In areas such as parts of the Northwest Territories where these furs were formerly a staple source of income, this style change has resulted in serious hardship. This is a problem that cannot be solved by wildlife management practices.

The most important aspects of management of the fur trapping industry are: constant practical scientific research, maintenance of suitable habitat and its improvement where possible, sound and balanced regulation of the trapping of fur bearers, provision of competent and adequate field staffs, and free education of trappers with respect to the principles of wildlife management. By these means many areas depleted of fur bearers have once again become productive. Such means will become increasingly important in maintaining Canada's position as a major producer of raw furs.

Most of the fur resources of the provinces of Canada are under the administration of the respective provincial governments. Exceptions include those resources within the boundaries of the National Parks and the Indian reserves, and the fur resources of Yukon Territory and the Northwest Territories which are under the administration of the Federal Government. The Canadian Wildlife Service of the Department of Northern Affairs and National Resources (*see pp. 34-35*) is responsible for all Federal Government interests in wildlife resources except for those activities closely related to Indian affairs. The Service co-operates with provincial governments and other agencies concerned and handles federal interests in relevant national and international problems.

Section 2.—Provincial and Territorial Fur Resources and Management*

Newfoundland.—The Province of Newfoundland, stretching 900 miles northward from a latitude of 47° N. has climatic and habitat conditions suited to the raising of wild fur-bearing animals. The Island supports beaver, muskrat, marten, otter, lynx, fox, ermine and mink. Mink are not indigenous to the Island but were introduced since 1935 through animals escaping from mink ranches. The Labrador area also is noted for its fine furs, particularly Labrador mink, and muskrat, marten, otter, beaver, fox, lynx, ermine and red squirrel are numerous enough to warrant trapping.

Wild fur trapping was a basic autumn and winter employment in the Province before World War II but defence construction and maintenance and industrial expansion so changed the economy of the people that trapping is now purely a part time occupation engaged in only when other employment is not available, and few members of the younger generation are now receiving the training necessary to the successful trapper.

Throughout the Province the long haired fur bearers were once the basis of the fur industry and the decline in the prices of their fur was mainly responsible for the decline in trapping. As a result the fox and lynx populations have built up so that they have assumed predator status and are not protected by regulations.

Beaver management was started in 1935 and the Island of Newfoundland was repopulated by the transfer of live animals. This program proved so successful that during four open seasons in the years 1946-53 the catch numbered 30,000 beaver valued at \$550,000. The success of this venture has led to the institution of a similar program in northern Labrador where the area north of the Hamilton River drainage has been without beaver for a hundred years.

Other fur bearers have not been managed except through the usual close seasons provided by regulations; for open seasons, regulations on fur bearing animals differ according to climatic zone and provide for the taking of animals only during that season when the fur quality of the pelt is at its highest.

Prince Edward Island.—Wild fur-bearing animals are very plentiful on Prince Edward Island. Red fox, skunk and raccoon have become so numerous and their depredations among Island poultry flocks so alarming that all protection has been removed and bounties are paid on all three species. Beaver too have increased to the point where they have become a nuisance in this highly agricultural province: they have plugged road and railway culverts and their dams have flooded pulpwood stands and extensive tracts of farmlands. There is now an annual open season on beaver (Nov. 10-Dec. 31) and some trapping permits are issued in the out of season period.

Ten years ago muskrats had become quite scarce but their population has increased and, being so easily trapped, they are now the best revenue producers. More than 3,000 of them are taken annually. Their increase is attributed largely to the shortening of the trapping season from Nov. 1-Mar. 31 to Nov. 10-Dec. 31 and the strict enforcement of trapping regulations, which prohibit the setting of traps within ten feet of a muskrat house or den or the damaging of it. Mink are also increasing in number and are protected by the same shortened trapping season as are muskrat. Mink moreover is the only fur bearing animal ranched to any extent in the Province.

Nova Scotia.—Nova Scotia is not a large producer of wild fur pelts. There is usually a six week open season (Nov. 1-Dec. 31) for mink, otter, weasel and muskrat. The present low market prices for long haired fur has discouraged the trapping of wildcat, fox and raccoon and these animals have been removed from the protected list. For the trapping of fur bearers other than beaver no licence is required.

* Provincial information received from the respective provincial governments and that for the Yukon and Northwest Territories from the Northern Administration and Lands Branch of the Department of Northern Affairs and National Resources, Ottawa.

Since 1931 the Department of Lands and Forests has been redistributing live beaver, which had been almost completely trapped out before that time. Today beaver is an important part of the trappers' catch in most of the counties of the mainland, where a ten day autumn season has been instituted. A few live beaver have also been introduced into Cape Breton Island but no open seasons have been proclaimed.

The red squirrel has become increasingly important as a fur bearer and in 1954 the laws were changed to permit trapping during the regular season and shooting during the rabbit season which lasts until the end of February.

In Nova Scotia trapping is not a full time occupation but is a source of additional income to guides, woods workers and farmers who live near fur producing areas.

Export figures are compiled as a byproduct of the collection of royalties on furs exported. Exports of wild animal furs in 1953-54 included: 29,498 deer hides, 553 red fox, 12 cross fox, 202 silver fox, 2,252 mink, 57,185 muskrat, 174 otter, 1,852 raccoon, 5,509 weasel, 248 wildcat, 82,743 red squirrel, 31 rabbit (snowshoe hare), 10 lynx, 3,165 beaver and a few pelts of skunk, seal, housecat, etc.

Quebec.—Fur from wildlife is still a very important asset to the Province of Quebec despite the invasion of the forest for industrial purposes.

The total number of pelts taken was 302,580 in the 1954-55 season. This number was lower than the 336,967 of 1953-54 but the value was higher—\$1,766,647 as against \$1,139,117 for the previous year.

The average value of each of the basic furs (beaver, mink, muskrat and weasel) was higher in 1954-55; white fox, fisher, otter and marten also advanced in price over 1953-54 but blue fox and lynx were lower. Prices of other types remained stable in both seasons.

Pelts produced in 1954-55 included: muskrat 122,709, weasel 47,973, squirrel 37,755, beaver 32,901, white fox 19,201, mink 17,470, seal 7,633, red fox 4,958, otter 3,127, raccoon 3,103, lynx 1,714, fisher 1,219, marten 738, cross fox 537, deer 439, skunk 389, blue fox 264, bear 257; and a few pelts of other types of foxes, lynx cat, polar bear and wolf. The tax rate per pelt varies from one cent on squirrel to \$2 on fisher. The royalties revenue to the Province on the total take of furs in 1954-55 was \$95,734.

The administration of the fur resources of Quebec is under the jurisdiction of the Department of Game and Fisheries. Under the game laws and regulations it is unlawful to hunt, catch or trap fur bearing animals out of season, or in season without a licence; to use poison to hunt or kill any animals; to destroy or damage lairs or burrows of fur bearing animals; or to keep in captivity, without special permit, any game protected by law. Regulations also cover the marketing of furs. It is not permissible to buy or sell any fur or pelt for commercial purposes without a licence; neither is it permissible to ship any fur outside the Province, or from one place to another within the Province, or to a tanner, without a permit attached to the bill of lading or without royalty having been paid and each pelt having been stamped or sealed.

By Order in Council of Aug. 17, 1945 the first registered game territory for trappers was set up by the Provincial Government in the Counties of East Abitibi and West Abitibi; in 1946 the County of Pontiac was organized, in 1947 Temiskaming and in 1952 the northern part of the County of Lavolette.

Regulations provide mainly that the land under lease must not exceed 50 sq. miles. The lessee, who pays an annual rental of \$10, is responsible for his own land which he must occupy 15 days before the opening of the trapping season and evacuate 15 days after its close. Each year he must make an inventory of his land and report on the location of the beaver huts thereon. He must hold a special permit to hunt beaver and must prove that there are at least five huts on his land. The quota allowed at the outset is one beaver per hut; as the population increases, the quota is raised to 1½ beavers per hut. Beaver pelts must be specially labelled before marketing.

The present registered game territory extends over 30,000 sq. miles. More than 400 trappers hold permits and the quota allowed for the capture of beaver, negligible at the outset, was 5,227 in 1953-54. Steps are being taken also to assist in the re-establishment of marten, the population of which has been steadily decreasing.

Ontario.—The fur and big game wealth of Ontario is administered by the Division of Fish and Wildlife, Ontario Department of Lands and Forests, under the authority of the Ontario Game and Fisheries Act, the Wolf and Bear Bounty Act, and regulations thereunder.

In the production of wild caught fur Ontario leads all other Canadian provinces. In the season of 1953-54 wild fur taken in Ontario was valued at almost \$4,000,000 and included pelts of 105,361 beaver, valued at \$1,385,497. Other important species in order of decreasing total value were muskrat, mink, otter, raccoon, fisher, weasel, marten, skunk, red fox and lynx.

The high production of wild fur in Ontario is attributed to the efficient system of fur management now in effect. Throughout most of the chief fur producing areas all trappers—the majority of whom are Indians—are holders of Registered Trapline Licences. Under this system each trapper is registered with the Province as the sole permittee on a defined trapping area. Thus competitive trapping has been almost entirely eliminated in all but the primarily agricultural areas of the Province and the Department is in a position to set quotas to restrict the annual take of the less abundant species during times of scarcity. Beaver, marten, fisher and lynx, comparatively rare in the Province a few years ago, have now attained populations which permit larger annual harvests to be taken than have been possible for many years.

Big Game.—An early and a late moose season in Ontario are designed to provide sport for hunters and meat for trappers. In some parts of the Province moose of any age or sex are legal game for the resident. In 1954 there were 7,502 resident moose licences and 735 non-resident licences sold. There was a known kill of 1,781 moose, made up of 1,340 bulls, 296 cows, 113 calves, and 32 unspecified.

Over 100,000 deer licences were sold in 1954 and about 30 p.c. of the hunters were successful in getting a deer. There is no open season on woodland caribou at present.

Manitoba.—Fur production and value declined in 1953-54. Wildlife fur taken during the year totalled \$1,574,467 as compared with \$2,116,157 in the previous year. This represented a 15 p.c. decline from the 1952-53 figure.

Registered trapline extension work continued, and major surveys were made in the middle west portion of the province, in preparation for the inclusion of this area in the registered trapline system in 1954-55. Estimated value of the 1953-54 crop from all registered trapline districts was \$152,400 as compared with \$265,666 in 1952-53.

Total wildlife fur production in 1953-54 included 23,324 beaver, 18,391 mink and 739,201 muskrats. Other fur taken is as follows: squirrel 110,010, weasel 62,862, jack rabbit 5,506, silver, blue, cross, white and red fox 2,086, otter 1,866.

The fur ranching industry maintained a high fur market value, and exceeded wildlife fur value for the first time in fur history. Total fur value for ranch bred fur was \$1,994,563.

Saskatchewan.—The wildlife fur industry in Saskatchewan has undergone a period of rapid reorganization in the past ten years. A policy of one trapper for each area has been inaugurated throughout the province, a system providing security for trappers on their traplines.

Unethical practices and lack of management brought beaver to virtual extinction in Saskatchewan by 1944 and the trapping industry in general had reached a low ebb. The Government in 1945 appointed a committee to consider this unfortunate condition and to recommend steps necessary to encourage and assist trappers dependent on fish and game for their livelihood particularly in isolated northern areas.

A Fur Marketing Service was established in Regina to give fur producers a local auction where their fur could be graded, displayed and sold to the highest bidder. In 1946 a Fur Conservation Agreement was concluded with the Federal Government by the Province in which the two Administrations agreed to spend certain moneys annually for the purpose of managing fur and game and improving wildlife habitat in the northern isolated areas for the benefit of the residents of those areas. The particular interest of the Federal Government in this region lay in the welfare of Treaty Indians who are their wards. Regulations under the Agreement gave Indians, métis and whites equal rights and security on their community, family or individual traplines. Local trappers' councils were elected by the trappers to act as spokesmen on their behalf when dealing with the Provincial Department of Natural Resources. During the subsequent five years 3,600 live beaver were moved from settled areas to new homes in the northern frontier where they were required for propagation purposes and for the improvement and maintenance of water levels. The result of this action has been a steady increase in the population of beaver, while the take has increased from approximately 400 pelts in 1943-44 to 51,700 in 1954-55.

The south Saskatchewan muskrat trapping program was inaugurated in 1946. Under this program each trapper in settled areas obtains a permit describing the area in which he is authorized to trap muskrats and the quota he may take from it—based on the number of houses and bank runs located therein. It is estimated that five muskrats per house will survive a winter and that three may be trapped, leaving the others for propagation. Thus general close seasons are a thing of the past and muskrats existing in any section may be trapped on the basis of the program. Average yearly production since 1946 has been almost tripled in relation to the average yearly production for a similar prior period. The 1955 crop numbered almost 1,965,000 muskrats, the fourth highest ever recorded in the Province.

Other fur bearers of economic importance are fisher, fox, lynx, marten, mink, otter, squirrel and rabbit. These animals have fluctuated in population as well as in pelt value in past years but the increased production of beaver and muskrat has helped stabilize the income of the trapper. Most fur prices have declined in recent years but the income received from Saskatchewan wildlife fur pelts has been maintained.

Badger, raccoon and wolverine are of little economic importance at present. Wolves and coyotes are on the predator list in settled areas as well as foxes and very comprehensive programs of control have been carried on to reduce the population of these animals.

By 1948 it was quite apparent that bounties did not have the desired effect of reducing the coyote population and a paid hunter program was introduced in co-operation with the rural municipalities, in which all field personnel were directly responsible to the Department of Natural Resources. Under strict supervision these men used guns, traps, cyanide guns or coyote-getters and poison. The program has been extremely successful and coyotes are no longer a problem in settled areas. In the autumn of 1954 the bounty on wolves was discontinued. Bait treated with poison, placed out on large lakes in isolated areas, is the present method of control of wolves. Here again only employees of the Department are allowed to handle the poison. This work is becoming increasingly important not only to protect game that is necessary to the welfare of people living in the north country but also to reduce the chances of spreading the rabies epidemic which has been apparent in the West during the past two years as well as hydatid disease which has been found in some species of big game.

The weasel is a valuable fur bearer as well as a controller of rodents and to increase its population there has been a demand to have the close season extended throughout the greater part of the settled areas. However closure in large areas does not seem to increase the weasel population and the Department is carrying on biological studies to ascertain the effect of trapping on these valuable fur bearers at various degrees of intensity over a period of years.

Alberta.—The current wildlife fur trade of Alberta depends mainly on the fine fur group consisting of muskrat, ermine, beaver, mink and squirrel. This group accounted for 97 p.c. of the total value of the 1953-54 catch. The depressed condition of the market for long haired coarse furred pelts including fox, skunk, lynx and rabbit has kept the trapping of these animals at a low level for some years. During the 1953-54 season the prices of furs generally remained low, except for a few species. Statistics show that more pelts were taken but the financial return to the trappers decreased.

Wildlife fur production in Alberta is controlled through the registered trapline system. Except for very slight fluctuations the number of registered traplines has remained fairly constant in recent years in the neighbourhood of 3,000, of which approximately 800 have been registered by Treaty Indians. The registration fee of \$10 per line is paid by the Federal Government on behalf of the Indians. The stabilized trapline situation is accounted for by the prevalence of both muskrat and beaver. Before the institution of the trapline system, the beaver was almost extinct in the Province, but in the ten years of beaver management the population has increased until it is now necessary to trap and remove beaver from areas where they are not wanted and where they cause considerable damage. Muskrat presents the same problem and if complaints, after investigation, are found to be justified special permits are issued for the removal of the animals. In 1953-54, 2,267 special muskrat permits at \$3 each and 303 beaver permits were issued.

Timber wolves, cougars and coyotes are considered predators but bounties were paid on cougars only; bounties on wolves and coyotes were discontinued and paid hunters used instead. Grizzly, black and brown bears are also classed as predatory and are unprotected throughout the Province.

Late in 1952 a rabies epidemic broke out in the northern part of the Province and trappers were employed to reduce the number of animals that might spread the disease. A double trapline was also set on the edge of the forested area completely surrounding the settled portions of the Province.

The wildlife resources of Alberta are administered by the Department of Lands and Forests under the Game Act and the Game Regulations.

British Columbia.—In 1926, effective control of fur bearing animals in British Columbia commenced and a registered trapline system went into effect. Under this system registered trappers are granted exclusive rights over designated areas. Each is given a sketch map and legal description of the territory and is required to submit an annual 'return of catch' outlining the amount and kind of fur obtained. These returns provide an accurate check of the fur taken from each district. The system of registered traplines has worked remarkably well and is practically trouble free.

Registered traplines cover all lands except private property, National Parks, Indian reserves, municipalities and certain other reserved areas. Trapping on private property may be pursued by the property owner himself or by someone to whom the owner has given permission, provided the trapper obtains a Special Firearms Licence which costs \$10 and which must be held by all trappers; this licence entitles the legal holder to hunt all types of large and small game. In 1954, 2,763 such licences were granted. In addition about 1,500 Indians were engaged in trapping: because they are not required to be licensed at present, their take is not recorded and the fur records for the Province are incomplete to that extent.

Fur bearers in the Province include bear, badger, beaver, fisher, fox, lynx, marten, mink, muskrat, otter, raccoon, skunk, squirrel, weasel and wolverine. Wolf, coyote, cougar and wildcat are classed as predators although the pelts of these animals are sometimes marketable. There is no close season on the predators or on raccoon, skunk, wolverine and black and brown bear. Raccoons and foxes have become so numerous in certain parts of the Province that they also may be considered as predators.

Trapping seasons are confined to the winter months, usually commencing Nov. 1, but beaver may be taken in some areas as late as May 24. Beaver are covered by tagging regulations under which the trapper is required to submit a yearly estimate of the number

of beaver left on his trapline. Before setting out to trap he makes known to the game warden of his area the number of animals he wishes to take; if it is not excessive he receives a tag which must be attached to each pelt. Trappers are not allowed to take more than 25 p.c. of the total population of beaver in their areas and this has played an important part in saving the beaver from extinction. These animals are now so numerous in some areas that it has become necessary to move them to districts where their activity will not cause damage. Nuisance animals are usually liberated on Indian traplines that need restocking.

Muskrat and squirrel are consistently the most important source of revenue among British Columbia furs. Marten was once in greatest demand, but mink appears to be taking precedence.

It is unlawful to ship fur out of or into the Province without permission and also to ship fur within the Province without plainly labelling the parcel with the sender's name, address and the number of his Special Firearms Licence. These regulations enable the game authorities to keep close control over fur shipments. Almost all of the raw fur business is centred in Vancouver and a game warden is posted there to supervise fur sales and fur traders. His regular visits to the traders keep infractions of the regulations at a minimum.

Low prices caused by changes in fashion and other factors such as the relatively high wages in construction and other industries, have made trapping fur for a livelihood unattractive in recent years. Little trapping is carried on today as compared with earlier years and in consequence fur bearers have become quite prevalent in all parts of the Province. The number of pelts upon which royalty was paid during 1954 was 459,411, of which 76 p.c. were squirrel, 12 p.c. muskrat, 4 p.c. mink, 3 p.c. weasel and 2 p.c. beaver. The remainder included fisher, silver, red and cross fox, lynx, marten, otter and wolverine.

Yukon Territory.—Registered trapline legislation introduced in 1950 has been completed throughout Yukon Territory and 420 individual trapline registrations have been approved for the area extending from the southern border to the 65th parallel of latitude. North of the 65th parallel the trappers, who are nomadic bands of Indians, have registered on two group-trapping areas: one, for the Loucheaux Band No. 10 of Old Crow, has 33 registrations approved for heads of families and the other, for the Loucheaux Band No. 7 of Fort McPherson, N.W.T., has 28 registrations. The initial registration fee for a trapline, either group or individual, is \$10 and the annual renewal fee is \$5.

During the past few years trapline activities have been discouraged by low fur prices and trappers have been forced to find other occupations. As a consequence the over-all picture of the fur population is good. Beaver, fox, lynx and squirrel are more prevalent and marten, mink and muskrat are more than holding their own in number; on the other hand, fisher, wolverine, otter and weasel are scarce. The predators—wolves and coyotes—appear to be increasing. Pelts taken in the 1954-55 season included: squirrel 154,516, muskrat 51,075, beaver 3,641, marten 1,113, weasel 449, mink 721, lynx 1,378, cross fox 15, red fox 31, silver fox 7, white marked fox 274, otter 87, fisher 26 and bear 24.

The only fur bearing animal on a quota is beaver: trappers are permitted to shoot or trap one beaver, including bank beaver, from each beaver house. Trapping may be prohibited over an area covered by a trapline permit if this is considered necessary for the conservation of breeding stock. During the month of March 1955 the lethal control program conducted since 1953 against predators, particularly wolves, was extended in scope by the establishment of lethal stations as far north as the 66th parallel of latitude. Poisoned bait was distributed by aircraft over a large number of lakes where wolf concentrations were observed.

Game law enforcement is in the hands of the Royal Canadian Mounted Police; in addition six Federal Park Wardens and 10 Class A Guides act as game guardians.

Northwest Territories.—Utilization of fur and game resources in the Northwest Territories is governed by the Northwest Territories Game Ordinance. Trapping privileges are available only to resident Indians and Eskimos and those white persons who were

licensed to hunt and trap in the Territories prior to 1938 and who have continued to reside therein. Provision is also made for the issue of general hunting licences to the descendants of these white persons.

Because of the nomadic nature of the Eskimo and the large areas over which he must hunt and trap there is no provision for trapline registration in the Franklin and Keewatin Districts, though a number of game preserves have been established in the Territories to preserve the fur and game therein for the natives. Largest of these is the Arctic Islands Game Preserve which comprises all the Arctic Islands north of the mainland plus a large area on the mainland.

Provision under the Game Ordinance for the establishment of registered traplines became effective in the Mackenzie District on July 1, 1949. Under this legislation exclusive trapping rights in limited areas are granted to the trappers to encourage them to manage carefully the fur bearers found there and to effect improvements leading to increased fur production. The Mackenzie District is divided into 11 Warden Districts (including Wood Buffalo Park) covering 386,615 sq. miles—over 50 p.c. under registration. There are 317 individual registered areas and 118 group registered areas.

The downward trend of the fur market during recent years has caused trappers to lose interest in trapline activities: many have obtained employment elsewhere and others have refused to trap very far away from the settlements. The fur take reflects this lack of interest, though lynx, marten and otter have remained steady and sharp increases have been noted for muskrat and beaver. The take of fox, weasel, mink and squirrel has shown a decided decrease. Pelts taken in the 1953-54 season were: muskrat 321,760, squirrel 38,116, white fox 27,178, weasel 9,218, beaver 9,760, mink 4,477, marten 4,863, lynx 1,244, black, blue, cross, red and silver fox 1,090, wolf 475, otter 133, wolverine 100 and fisher 18.

Beaver and marten are taken on a quota basis: trappers are permitted to shoot or trap one beaver for each occupied beaver lodge. In areas where beaver are scarce and where conditions are suitable, transplant operations are carried out. Close seasons are established when it becomes apparent that a particular species of fur bearing animal is being overtrapped and a wolf poisoning program is carried out in areas where these animals have become detrimental to desirable wildlife.

Game law enforcement is in the hands of wardens stationed at the principal settlements in the Mackenzie District; elsewhere in the Territories it is handled by the Royal Canadian Mounted Police.

Section 3.—Fur Farming

Fur bearing animals were first raised in Canada on farms in Prince Edward Island about 1887 and in Quebec in 1898; today fur farming is carried on in all the provinces. Foxes were the first fur bearers to be raised in captivity on a commercial scale but mink, chinchilla, raccoon, marten, fisher, fitch, nutria and others are now being reared. Mink are the most numerous, followed by the various types of foxes and these two species far outnumber all other kinds of fur bearing animals.

There was a slow and steady increase in the number of fur farms until 1920 when 587 were reported, followed by a period of more rapid growth from 1920 to 1938 when the number reached 10,454. In 1939, with the loss of the London and other European markets, prices declined and many fur farms went out of production. Though prices rose considerably after World War II, operating costs increased and the number of fur farms, particularly those conducted in conjunction with other farming operations, continued to decrease. By 1953 only 2,513 reported but volume of production has been maintained.

Though the earliest and most intensive fur farming operations were concerned with fox raising in the Maritime Provinces and Quebec the sharp decline in the popularity of fox furs and the steady rise in mink resulted in Ontario and western Canada taking predominant positions in the raising of fur animals. A distribution of the 321,057 animals on fur farms at Dec. 31, 1953 showed 15 p.c. in British Columbia, 47 p.c. in the Prairie Provinces, 26 p.c. in Ontario, 8 p.c. in Quebec and 5 p.c. in the Maritime Provinces.

Furs have for centuries been used for clothing and adornment and the demands of fashion, encouraging the development of new colour phases in fox and mink, have been an important incentive to the fur farming industry. There have always been mink mutations in the wild state but these unusual animals stood little chance of survival and such pelts were exceedingly rare. Starting with wild-caught mink, breeders have, by cross-breeding, produced mink furs in a variety of colours. Among the earliest mutations to appear was an attractive bluish gray mink which became known as Platinum mink. Then mutations were crossbred and a still greater profusion of colour combinations appeared, notably the Sapphire mink, a cross of the steel blue Aleutian with the blue gray Platinum. Other unusual colour patterns are the Royal Pastel, a beautiful brown mink with a bluish cast, and an exquisite snow white mink.

In 1937 some chinchillas were imported into Saskatchewan and later into other provinces. These valuable little animals have a rich, soft fur. Although the original cost of chinchillas is high the outlay for raising them is small. There has been a steady increase in the number of farms on which chinchillas are raised; in 1953 there were 423 and the number of these animals reported was 15,889 with a value of \$2,580,961.

Section 4.—Statistics of Fur Production*

Total Fur Production Statistics.—Early records of raw fur production were confined to the decennial censuses when account was taken of the number and value of pelts obtained by trappers. In 1920 the Dominion Bureau of Statistics commenced and continued for some years an annual survey of raw fur production, basing the statistics on information supplied by the licensed fur trappers. More recently annual statements based on royalties, export tax, etc., have been made available by the provincial game departments (except Prince Edward Island), and these statements are used in the preparation of the statistics issued annually by the Bureau. Figures for Prince Edward Island are based on returns supplied to the Dominion Bureau of Statistics by fur trappers in that Province.

1.—Pelts of Fur Bearing Animals Produced and Percentage Sold from Fur Farms, Years Ended June 30, 1935-54

Year	Pelts		Percentage of Value Sold from Fur Farms ¹	Year	Pelts		Percentage of Value Sold from Fur Farms ¹
	Number	Value			Number	Value	
		\$				\$	
1935.....	4,926,413	12,843,341	31	1945.....	6,994,686	31,001,456	31
1936.....	4,596,713	15,464,883	40	1946.....	7,593,416	43,870,541	30
1937.....	6,237,640	17,526,365	40	1947.....	7,486,914	26,349,997	37
1938.....	4,745,927	13,196,354	43	1948.....	7,952,146	32,232,992	37
1939.....	6,492,222	14,286,937	40	1949.....	9,902,790	22,899,882	33
1940.....	9,620,695	16,668,348	31	1950.....	7,377,491	23,184,033	34
1941.....	7,257,337	21,123,161	26	1951.....	7,479,272	31,134,400	36
1942.....	19,561,024	24,859,869	19	1952.....	7,931,742	24,215,061	43
1943.....	7,418,971	28,505,033	24	1953.....	7,568,865	23,349,680	43
1944.....	6,324,240	33,147,392	28	1954.....	6,274,727	19,287,522	49

¹ Approximate.

² Newfoundland included from 1952.

Ontario leads the provinces in value of fur production, accounting for 24 p.c. of the total in the 1953-54 season. The number of pelts taken in Alberta was greater than in Ontario but squirrel pelts, which are lower priced furs, made up 51 p.c. of the total. In Ontario the more valuable mink and beaver pelts brought the total value to a higher level.

* Revised in the Agriculture Division, Dominion Bureau of Statistics.

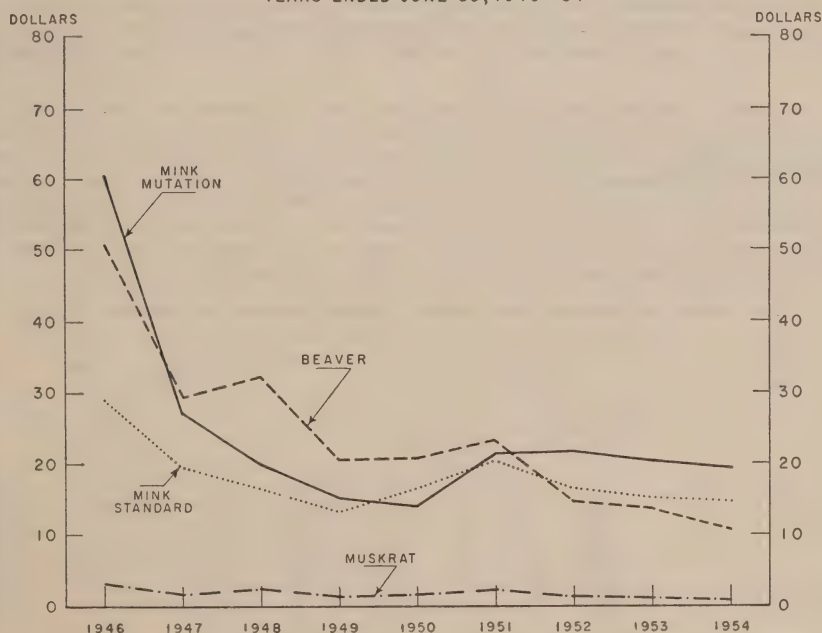
2.—Pelts of Fur Bearing Animals Produced by Province, Years Ended June 30, 1953 and 1954

Province or Territory	1953			1954		
	Pelts	Value	Percentage of Total Value	Pelts	Value	Percentage of Total Value
	No.	\$		No.	\$	
Newfoundland.....	35,825	72,297	0.3	39,904	142,518	0.7
Prince Edward Island.....	13,894	111,759	0.5	10,160	113,910	0.6
Nova Scotia.....	196,717	489,491	2.1	173,248	422,861	2.2
New Brunswick.....	63,311	214,900	0.9	58,668	285,300	1.5
Quebec.....	395,761	2,157,388	9.2	378,796	1,868,251	9.7
Ontario.....	1,255,189	6,040,596	25.9	1,149,799	4,596,590	23.8
Manitoba.....	1,122,945	4,215,639	18.0	1,087,217	3,569,030	18.5
Saskatchewan.....	1,493,384	2,667,532	11.4	1,041,107	1,826,460	9.5
Alberta.....	1,828,586	4,199,326	18.0	1,250,130	3,423,923	17.8
British Columbia.....	528,221	2,056,406	8.8	490,489	2,099,362	10.9
Yukon.....	246,379	247,001	1.1	176,338	182,238	0.9
Northwest Territories.....	388,653	877,345	3.8	418,871	757,079	3.9
Canada.....	7,568,865	23,349,680	100.0	6,274,727	19,287,522	100.0

The average prices for the different kinds of pelts taken in 1953-54 were generally lower than in 1952-53. Standard mink pelts dropped from \$15.18 to \$14.74, mutation mink from \$20.55 to \$19.29, beaver from \$13.90 to \$10.57 and muskrat from \$1.26 to \$0.94. Some types of fox pelts advanced in price; silver fox advanced from \$7.43 to \$7.77, new types from \$8.07 to \$8.30 and white fox from \$8.86 to \$11.10. Squirrel prices advanced from 45 cts. to 55 cts. and slight increases were recorded for rabbit, wildcat and wolverine.

ANNUAL AVERAGE VALUE OF MINK, BEAVER AND MUSKRAT PELTS

YEARS ENDED JUNE 30, 1946-54



3.—Pelts of Fur Bearing Animals Taken by Kind, Years Ended June 30, 1953 and 1954

Kind	1953			1954		
	Pelts	Total Value	Average Value	Pelts	Total Value	Average Value
	No.	\$	\$	No.	\$	\$
Badger.....	215	158	0.73	268	71	0.26
Bear, white.....	598	1,135	18.98	458	10,588	23.12
Bear, unspecified.....	465	9,460	2.03	437	725	1.66
Beaver.....	224,606	3,121,608	13.90	242,453	2,561,786	10.57
Coyote or prairie wolf.....	9,099	19,851	2.18	4,404	7,356	1.67
Ermine (weasel).....	546,344	718,642	1.32	293,309	279,870	0.95
Fisher.....	5,533	112,347	20.30	5,794	102,157	17.63
Fox, blue.....	582	4,033	6.93	639	3,482	5.45
Fox, cross.....	2,314	5,384	2.33	2,149	4,014	1.87
Fox, new-type.....	5,053	40,834	8.07	2,727	22,640	8.30
Fox, red.....	23,697	20,655	0.87	15,637	12,238	0.78
Fox, silver.....	24,282	180,296	7.43	9,816	76,228	7.77
Fox, white.....	40,710	360,760	8.86	36,371	403,562	11.10
Fox, other.....	41	156	...	27	35	...
Lynx.....	13,099	72,759	5.55	11,325	40,967	3.62
Marten.....	16,574	193,296	11.66	14,981	108,653	7.25
Mink, standard.....	642,234	9,751,580	15.18	506,007	7,459,053	14.74
Mink, mutation.....	143,555	2,950,315	20.55	198,010	3,819,643	19.29
Muskrat.....	3,440,664	4,322,093	1.26	3,362,495	3,158,653	0.94
Otter.....	14,612	330,480	22.62	13,773	302,560	21.97
Rabbit.....	55,692	13,131	0.24	45,770	12,224	0.26
Raccoon.....	32,986	61,354	1.86	36,910	55,429	1.50
Skunk.....	10,315	10,525	1.02	6,304	4,401	0.70
Squirrel.....	2,313,455	1,037,172	0.45	1,461,881	809,040	0.55
Wildcat.....	501	405	0.81	492	417	0.85
Wolf.....	1,121	5,341	4.76	824	3,844	4.67
Wolverine.....	406	4,589	11.30	465	5,512	11.85
Other.....	107	1,321	...	1,001	22,374	...
Totals.....	7,568,865	23,349,680	...	6,274,727	19,287,522	...

Fur Farm Statistics.—The postwar downward trend in number of fur farms continued through 1954 with 2,408 farms compared with 2,513 in 1953. The value of fur bearers on these farms however was \$12,941,000 compared with \$10,835,709 in the earlier year.

Fur farms reporting foxes in 1954 numbered 249, a decrease from the 278 of the previous year; the 4,878 foxes on farms in 1954 were 9 p.c. fewer than in 1953 and were valued at \$113,455. Mink farms also dropped from 1,894 in 1953 to 1,858 in 1954. Farms having one to 79 mink decreased by 9 p.c. while those with 80 and over increased by 3 p.c. There was an increase in mink from 299,433 valued at \$8,142,229 in 1953 to 335,150 at \$9,632,795 in 1954. Fox pelt production decreased from 10,784 valued at \$82,252 in 1953 to 6,836 valued at \$70,554 in 1954 and mink pelts produced numbered 622,358 valued at \$10,097,794 in 1953 compared with 677,014 valued at \$12,868,787 in 1954.

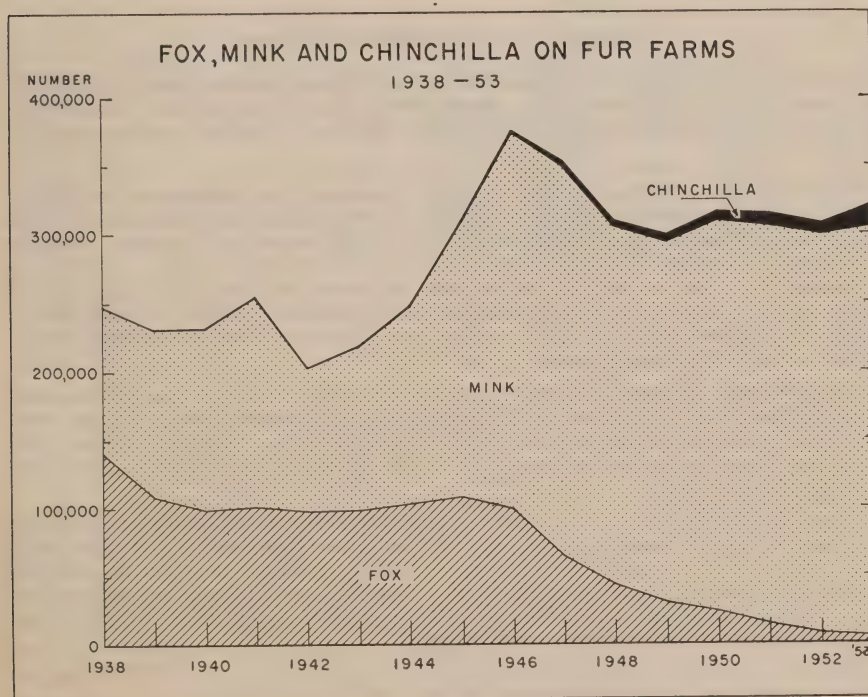
4.—Fur Farms and Value of Fur Bearing Animals Thereon by Province 1951-54

Province	Fur Farms at Year End				Values of Fur Bearing Animals on Fur Farms			
	1951	1952	1953	1954	1951	1952	1953	1954
	No.	No.	No.	No.	\$	\$	\$	\$
Newfoundland.....	..	..	..	..	101,565	75,845	59,416	105,000
Prince Edward Island.....	88	60	45	42	195,171	143,795	176,845	219,000
Nova Scotia.....	110	82	75	83	149,377	103,351	201,783	363,000
New Brunswick.....	95	72	93	116	1,043,629	1,112,157	1,544,436	1,495,000
Quebec.....	389	248	245	268	3,205,643	2,865,994	2,883,614	3,401,000
Ontario.....	903	778	680	544	1,644,672	1,655,693	1,882,883	2,051,000
Manitoba.....	467	432	422	394	556,443	430,380	577,126	640,000
Saskatchewan.....	180	167	144	145	1,708,280	1,553,926	1,891,275	2,120,000
Alberta.....	519	503	476	446	1,530,781	1,619,561	1,848,331	2,547,000
British Columbia.....	321	336	333	370	...	...	...	...
Totals.....	3,072	2,668	2,513	2,408	10,195,561	9,560,702	10,835,709	12,941,000

5.—Fur Bearing Animals on Fur Farms as at Dec. 31, 1951-54

(Exclusive of Newfoundland)

Kind of Animal	1951		1952		1953		1954	
	No.	Value	No.	Value	No.	Value	No.	Value
		\$		\$		\$		\$
Fox—								
Blue.....	269	341,839	148	140,261	194	96,833	244	113,455
Platinum.....	1,293		657		477		409	
Pearl platinum.....	2,159		1,827		1,361		1,395	
Silver.....	9,707		4,380		3,062		2,662	
White-marked.....	808		299		202		124	
Other.....	100		55		49		44	
Mink—								
Standard.....	180,187	8,022,408	137,792	7,284,860	108,548	8,142,229	103,940	9,632,795
Mutation—								
Platinum (silverblu)...	55,319		59,773		64,736		61,584	
Pastel.....	35,819		53,579		75,327		94,011	
Other.....	20,800		36,069		50,822		75,615	
Chinchilla.....	8,530	1,799,963	11,571	2,122,889	15,889	2,580,961	21,649	3,170,599
Marten.....	45	4,520	31	1,910	23	1,465	169	11,640
Nutria.....	255	21,970	166	9,305	175	8,235	224	10,702
Raccoon.....	124	623	132	539	94	314	87	586
Other.....	70	4,238	44	938	98	5,672	32	1,378
Totals.....	315,485	10,195,561	306,523	9,560,702	321,057	10,835,709	362,189	12,941,155



6.—Number and Value of Pelts Produced on Fur Farms by Kinds 1951-54

(Exclusive of Newfoundland)

Kind of Animal	1951		1952		1953		1954	
	No.	Value	No.	Value	No.	Value	No.	Value
		\$		\$		\$		\$
Fox—								
Blue.....	1,061	8,167	491	4,093	236	1,777	166	1,825
Platinum.....	4,451	64,523	2,304	22,886	815	6,072	512	4,214
Pearl platinum.....	4,277	70,424	3,158	37,611	2,837	25,900	1,832	23,391
Silver.....	31,664	369,478	18,007	155,468	6,492	46,286	4,191	40,272
White-marked.....	2,229	23,421	1,198	8,272	384	2,016	127	794
Other.....	104	1,194	71	433	20	201	8	58
Mink—								
Standard.....	440,238	6,851,719	429,132	5,378,507	325,358	4,245,944	264,422	4,119,967
Mutation—								
Platinum (silverblu)...	96,547	2,011,144	118,768	2,002,883	118,251	2,024,635	141,060	2,414,448
Pastel.....	59,565	1,526,788	80,496	1,723,933	108,516	2,183,680	172,984	3,898,745
Other.....	22,589	485,720	37,135	921,659	70,233	1,643,535	98,548	2,435,627
Chinchilla.....	1	1	1	1	1	1	1,460	34,245
Fisher.....	46	1,436	1	1	1	1	1	1
Marten.....	95	2,519	54	1,043	30	425	1	1
Raccoon.....	28	39	24	34	19	27	6	10
Other.....	200	1,483	289	4,117	954	17,095	105	986
Totals.....	663,094	11,418,055	691,127	10,260,939	634,145	10,197,593	685,421	12,974,582

¹ Included in "Other".

Section 5.—Marketing of Furs

Montreal, Que., is the leading Canadian fur mart although auction sales are also held at Vancouver, B.C., Edmonton, Alta., Regina, Sask., and Winnipeg, Man. The Saskatchewan Government maintains a Fur Marketing Service at Regina to assist producers in that Province.

Grading.—The grading of furs to secure uniformity was introduced in 1939 by the Federal Department of Agriculture so that furs may be purchased by grade without the necessity of buyers from other countries personally examining the pelts. Grading offers many advantages to the producer as well as to the trade in general. It educates the rancher as to the proper value of his pelts and creates an incentive to improve the quality of the product; it furnishes guidance in the planning of future matings, aids in raising the standard of quality of the entire crop of pelts and helps in advancing the level of prices for high quality pelts.

Exports and Imports.—Before World War II Canada marketed fur pelts mainly in the United Kingdom but that market was practically dormant during the war years and the fur trade was carried on mainly with the United States. A revival of trade with the United Kingdom took place after the War but 80 p.c. of Canadian fur exports still go to the United States.

The Canadian fur trade, both export and import, is chiefly in undressed furs, the value of dressed and manufactured furs going out of or coming into Canada being a comparatively small proportion of the total. Exports consist largely of furs which Canada produces in greatest abundance, mink being the most valuable followed by beaver, muskrat and fox. Furs such as Persian lamb, certain types of muskrat, mink, sheep and lamb and squirrel make up the major portion of the imports.

Exports and imports of all furs to and from the United States, the United Kingdom and all countries are given for the years 1953 and 1954 in Table 7.

7.—Exports and Imports of Furs by Kind 1953 and 1954

Kind of Fur	1953			1954		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
EXPORTS						
	\$	\$	\$	\$	\$	\$
Undressed—						
Beaver.....	984,890	1,898,689	3,070,087	889,087	1,892,755	2,873,405
Ermine.....	128,598	491,883	621,026	103,594	203,257	307,167
Fisher.....	91,068	55,755	155,399	112,486	31,107	161,282
Fox, all types.....	194,037	389,587	644,370	289,183	576,860	888,740
Lynx.....	50,806	24,734	76,757	54,181	27,034	81,526
Marten.....	18,372	143,152	164,401	51,917	238,075	290,504
Mink.....	871,664	12,799,444	13,792,160	945,692	14,701,521	15,750,036
Muskrat.....	912,300	578,192	1,508,141	1,045,407	614,618	1,663,791
Otter.....	27,293	41,063	75,237	30,445	32,054	66,283
Rabbit.....	108	19,053	19,161	25	25,702	25,727
Raccoon.....	13,338	60,894	75,032	2,328	36,548	40,397
Seal.....	—	810	810	—	—	—
Skunk.....	9,706	11,436	21,407	7,529	4,487	12,016
Squirrel.....	562,534	54,655	618,535	564,747	40,481	605,473
Weasel.....	14,684	143,242	157,926	7,310	103,269	113,291
Wolf.....	5,722	27,711	33,498	3,861	14,508	18,511
Other.....	7,940	20,600	35,681	4,089	40,620	68,837
Dressed—						
Fox.....	—	—	2,568	—	179	1,214
Other.....	1,102	480,769	663,093	31,477	503,330	746,859
Manufactured.....	2,786	567,245	605,027	47,852	491,972	567,615
Totals.....	3,896,948	17,808,914	22,340,616	4,191,210	19,578,377	24,312,674
IMPORTS						
	\$	\$	\$	\$	\$	\$
Undressed—						
China and Jap mink.....	—	52,854	101,922	2,540	50,599	67,327
Fox.....	8,598	14,740	23,338	5,478	52,175	88,226
Kolinsky.....	185,772	—	253,017	61,005	4,540	106,318
Marine.....	—	3,204	3,204	300	—	300
Mink.....	37,157	2,066,675	2,123,205	84,606	2,369,178	2,503,698
Muskrat.....	1,664	4,247,601	4,250,425	4,119	2,617,639	2,621,758
Opossum.....	—	11,382	11,382	—	9,213	9,213
Persian lamb.....	1,158,074	4,209,819	5,816,202	708,618	5,425,900	6,483,982
Rabbit.....	—	192,394	728,393	—	66,075	148,603
Raccoon.....	—	417,555	417,555	—	329,638	329,638
Sheep and lamb.....	132,851	517,290	858,945	64,337	243,851	425,994
Squirrel.....	36,804	153,815	274,970	28,193	208,085	382,658
Other.....	205,503	728,273	1,643,047	303,347	879,272	1,788,212
Dressed—						
Astrakhan (Russian hare).....	—	2,099	2,099	—	—	—
Rabbit.....	18,188	8,985	92,031	3,006	1,682	24,433
Sheep skins.....	3,467	346,222	367,864	2,249	244,450	248,659
Hatters furs.....	121,971	695,742	1,360,553	139,630	463,954	978,576
Other.....	48,957	1,458,143	1,606,996	52,508	1,779,263	1,853,714
Manufactured.....	296,664	745,631	1,076,579	244,231	595,178	848,602
Totals.....	2,255,670	15,872,424	21,011,727	1,704,167	15,340,692	18,909,911

Section 6.—The Fur Processing Industry*

The rather general term 'fur processing' includes the fur dressing and dyeing industry and the fur goods industry. The former is concerned with the dressing or dyeing of pelts on a custom basis and the latter is a manufacturing industry that makes up fur goods such as coats, scarves and gloves.

Fur dressing and dyeing industry statistics were first recorded in 1917 when 12 establishments with 511 employees reported receipts of \$1,071,805. Eight establishments in 1924 reported revenues of \$1,120,895, expenditures of \$162,013 on dyes, chemicals and

* Prepared in the Animal Products Section, Industry and Merchandising Division, Dominion Bureau of Statistics.

other materials used, and expenditures of \$561,233 on salaries and wages to 539 employees. Of the 3,473,909 skins treated in that year muskrat pelts made up 47 p.c., rabbit 19 p.c. and squirrel 10 p.c.

The greatest number of skins treated was reported in 1941 when 14,592,079 were handled, but almost 53 p.c. of those were rabbit skins so that the revenue for that year was only \$2,476,289. The record revenue reported was that for 1949 when \$6,691,418 was received and rabbit skins constituted 38 p.c. of the total processed.

In 1954 the number of skins treated was 9,279,897, of which muskrat comprised 48 p.c., squirrel 16 p.c., Persian and other types of lamb 13 p.c., rabbit 8 p.c. and mink 8 p.c.

8.—Principal Statistics of the Fur Dressing Industry 1951-54

Item	1951	1952	1953	1954
Establishments..... No.	20	17	16	17
Employees on Salaries—				
Male..... No.	100	82	74	84
Female..... "	37	30	24	19
Employees on Wages—				
Male..... No.	940	942	900	859
Female..... "	228	226	216	180
Salaries paid..... \$	600,593	460,998	440,036	437,131
Wages paid..... \$	2,538,783	2,865,534	2,749,531	2,562,980
Cost of materials used (dyes, chemicals, etc.)..... \$	1,076,825	1,177,345	1,026,173	963,538
Pelts treated..... No.	9,768,616	12,085,066	11,001,366	9,279,897
Amount received for treatment of furs..... \$	5,302,761	6,061,850	5,920,014	5,634,991

Statistics on a comparable basis for the fur goods industry are available from 1921, when 219 establishments reported a gross value of production of \$13,639,609, employees numbered 2,621 and salaries and wages amounted to \$3,013,706. Cost of materials used in the manufacturing process totalled \$8,118,833. Principal statistics of the industry for the years 1951 to 1954 are given in Table 9.

9.—Principal Statistics of the Fur Goods Industry 1951-54

Item	1951	1952	1953	1954
Establishments..... No.	612	596	600	581
Employees on Salaries—				
Male..... No.	1,203	1,220	1,122	1,083
Female..... "	349	355	314	282
Employees on Wages—				
Male..... No.	2,625	2,629	2,745	2,435
Female..... "	1,907	1,765	1,764	1,489
Salaries paid..... \$	4,755,383	5,033,155	4,743,807	4,531,941
Wages paid..... \$	9,657,070	10,388,597	11,103,947	9,816,442
Cost of materials used..... \$	38,100,213	41,909,453	39,639,350	36,053,592
Value of products..... \$	61,209,546	66,245,562 ¹	63,991,716 ¹	58,464,790 ¹

¹ Value of factory shipments. See text pp. 624-625.

Changes in living habits and standards in the past quarter century are reflected in the type of goods produced by the fur goods industry. For example in 1921 there were 31,604 ladies' fur coats and jackets produced whereas in 1954 the number was 208,195. The manufacture of men's fur coats showed a decided reversal in the market; there were 5,692 men's fur or fur lined coats manufactured in 1921 but only 71 in 1954.

CHAPTER XV.—MANUFACTURES

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

This Chapter deals with manufacturing in Canada in three Parts. Part I briefly considers postwar growth of manufacturing within the historical framework of Canadian development with major emphasis on the year 1953 and the fifteen leading industries. Part II provides general statistical analyses including: manufacturing statistics from 1917; detailed treatment of current production under various groupings and individual industries; and principal factors in manufacturing production such as capital expenditures, employment, salaries and wages and size of establishment. Part III deals with the provincial and local distribution of manufacturing production.

PART I.—REVIEW OF CANADIAN MANUFACTURING

Canada is today an industrialized society, obtaining its major source of income and finding its major source of employment in manufacturing operations. This process, beginning in the 1860's, gathered momentum in World War I but was not an economic force until the early years of World War II. Nevertheless some Canadian industries became competitive with those of other countries in both quality and price long before World War II. One of the earliest examples was the farm implements industry; another was the pulp and paper industry, which was able to compete successfully in important foreign markets in the 1920's and still remains the leading manufacturing industry.

The first phase of development took place between 1867 and 1900. Rising prosperity until 1873 brought about continuing expansion of manufacturing capacity particularly in such fields as flour and grist-mill products, leather boots and shoes, and log products such as lumber, lath and shingles. Manufacturing weathered the depressed economic conditions of the latter part of the 1870's and a good part of the 1880's, aided particularly by the high quality of Canadian natural resources and the fact that they could be developed at low cost, partly because of their growing accessibility as the railway network expanded in Canada and partly because cheap ocean transport became available.

The period 1900 to 1920 was characterized by rapid population increase and the opening up of the West. The program of railway construction, the growth of cities and towns, the equipping of western farms and the extension of community facilities in both eastern and western Canada gave great impetus to the production of capital goods. World War I brought about a notable acceleration of industrial diversification with particularly striking effects on the refining of non-ferrous metals, the expansion of the steel industry and the shipbuilding and aircraft industries. Following the War international competition became very keen and Canadian industries experienced some adjustment, particularly in the short though severe recession of 1921. This check was temporary and expansion was resumed up to the crest of 1929 with particular emphasis on pulp and paper, transportation equipment, non-metallic mineral products and chemicals. As a result of the depression of the 1930's when economic activity was at a low ebb, Canadian industries were unprepared for the avalanche of military orders following 1939; nevertheless conversion to war production was accomplished in two years. Expansion of productive capacity in manufacturing during the war years was particularly striking in such fields as tool making, electrical apparatus, chemicals and aluminum.

About two-thirds of the industrial structure created during that period was found to be adaptable to peacetime uses after the War. Although reconversion, modernization and expansion necessitated large capital outlays and although supply shortages slowed down the implementation of the program, most of the work was completed by the end of 1947. From 1950 onward, two developments contributed particularly to manufacturing expansion in Canada. First, the intensive search for new minerals and other natural resources brought about a number of important discoveries and rapid development followed in such fields as crude oil, natural gas, iron ore, non-ferrous metals and a number of less important metals. This new development and the resulting need for equipment for exploration and processing gave great impetus to Canadian industries producing capital goods. Further, the availability of a greater quantity and variety of indigenous raw materials led to the creation of more processing capacity and to the establishment of advanced raw-material and power-using industries. Foremost among these was the chemical industry, which became increasingly diversified. In particular, major discoveries of oil and gas made feasible the establishment of such industries in central Alberta notwithstanding the great distance to the principal markets of the North American Continent.

The second development was the outbreak of the war in Korea, leading to the establishment of a three-year \$5,000,000,000 defence program. Three industries in particular received great stimulus from the rearmament program: the aircraft industry which, for the first time, began production of jet aircraft and jet aircraft engines; the electronics industry which produced a great variety of new items, from equipment for Canada's northern radar screen to infantry pack radio sets; and the shipbuilding industry which not only revived after several years of decline following the end of World War II but which drew increasingly on Canadian equipment producing industries to fit out, power and arm the newly built naval vessels. A major characteristic of the expansion of Canadian manufacturing industries encouraged by the rearmament program was the adaptability of many of the new developments to civilian use. An outstanding example was the comparative ease with which a television industry was established in Canada.

Developments in 1953.—Manufacturing industry continued to expand in 1953 under the influence of a growing population and a broadening economic base. The gross value of shipments by manufacturers reached \$17,785,416,854, a 4.7 p.c. increase over 1952.

The 1953 advance in value was accounted for by an increase of 6.8 p.c. in the physical volume of production, offset by price declines. The index of physical volume of production at 263.0 (1935-39=100), was 20 points above the peak wartime level attained in 1944. Accompanying the rise in output was an increase of 3.0 p.c. in the number of persons employed and of 8.7 p.c. in the amount of salaries and wages paid. Salary and wage payments at \$3,957,018,348 were the highest on record and exceeded the previous high reported in 1952 by \$319,398,188.

Manufacturing establishments reporting in 1953 numbered 38,107. Of these, 939 were located in Newfoundland, 216 in Prince Edward Island, 1,591 in Nova Scotia, 1,094 in New Brunswick, 12,132 in Quebec, 13,114 in Ontario, 1,540 in Manitoba, 1,062 in Saskatchewan, 2,072 in Alberta, 4,317 in British Columbia and 30 in the Yukon and Northwest Territories. These plants furnished employment to 1,327,451 persons who received \$3,957,018,348 in salaries and wages, produced goods with a selling value at the factory of \$17,785,416,854 and spent \$9,380,558,682 for materials, while the value added by manufacture totalled \$7,993,069,351. It should be remembered that the value added by manufacture does not represent the manufacturers' profits. The value added is obtained by subtracting the cost of materials, including fuel and electricity, from the value of products. The difference represents the value added to the materials by labour. It is this difference which the employer of labour uses to pay for the labour itself, the overhead expenses, interest and profits. Compared with the previous year there was an increase of \$802,729,819 in the value of factory shipments.

Development in Canada's Leading Industries.—In Canada fifteen leading industries account for about 45 p.c. of the value of manufacturing production. The largest industry, pulp and paper, had a gross value of output of \$1,180,000,000 in 1953. In little over half a century the Canadian industry has become one of the major enterprises of the world. Several factors were responsible for this growth: Canada possesses over half of the pulpwood resources of North America, cheap and abundant water power is found close to pulpwood stands, and extensive river systems can be used to transport pulpwood to the mills. Other important factors include the steady growth of population on the North American Continent, the increase in literacy, the rise of voluminous metropolitan dailies, the adoption of technical improvements in the printing and building trades and the growth of modern merchandising techniques. In recent years extensive development in the field of non-paper uses for dissolving pulp, such as rayon and plastics, has contributed to the growth of the industry.

In the period 1946-53 the pulp and paper industry in Canada more than doubled its value of production. The volume of newsprint output advanced 38 p.c., mechanical pulp 28 p.c., chemical pulp 51 p.c., paperboard 39 p.c., and wrapping paper 36 p.c. The significance of the industry in the postwar period is indicated by the fact that it ranked first in wages paid, first in new investment, first in exports as well as first in value of output. This industry produced 21 p.c. of the world's output of woodpulp and supplied 30 p.c. of the world's total pulp exports, provided more than one-half of the world's newsprint and a significant amount of other grades of paper and paperboard.

In 1953 the output of newsprint continued to expand, registering an 0.8 p.c. increase over 1952. Sales of other paper products and of pulp also increased. The increase in newsprint production was accounted for by larger exports, which totalled \$619,000,000 in value.

Four of Canada's fifteen largest manufacturing industries are included in the food and beverages group. The slaughtering and meat packing industry ranked fourth in 1953 with a gross value of sales of \$829,000,000, butter and cheese ninth with gross sales of \$397,000,000, miscellaneous food preparations thirteenth with \$284,000,000 and bread and other bakery products fourteenth with \$278,000,000. The level of activity in Canada's food processing establishments exerts a major influence on over-all employment and income. The food industries have experienced a wide shift in the importance of various markets. Production for overseas trade received considerable impetus during World War I

and continued active in the following period. By 1939 Canadian salmon, bacon, flour and canned fruits and vegetables were being shipped to Europe in large quantities and the United States also provided an attractive market for a great variety of processed foods. During World War II producers turned out bacon, canned meats, cheese and dried milk and eggs in record quantities to meet Allied requirements but in the postwar period Canada's growing population and increased per capita consumption have reduced the amount left for export.

The non-ferrous metal smelting and refining industry, the second largest manufacturing industry in Canada, had a gross value of production of \$871,000,000 in 1953. Canada is one of the world's leading producers of non-ferrous metals, standing first in the production of nickel, second in aluminum, third in zinc, fourth in lead, and fifth in copper. These figures do not include the metallic content of exported ore. Canada has been the world's leading exporter of non-ferrous metals for over a decade. The most important of this country's base-metal ore bodies were discovered before the turn of the century but their complexity prevented early exploitation. Unlike many important deposits elsewhere, which consist largely of oxides or of sulphides of a single metal, they were found to contain ores of two or more base metals intimately associated and frequently containing appreciable quantities of precious metals, such as gold, silver and platinum. Their development has been one of the most notable triumphs of Canadian skill and enterprise. During World War I and throughout the 1920's, large sums of money were spent on the discovery and improvement of smelting and refining techniques. Later, as the success of these processes was assured, plants were built that ranked among the greatest and most highly integrated of their kind in the world. Once in operation these establishments were in a position to reap the economies of large scale production. Cheap water power, numerous byproducts and locations near the ore bodies were other advantages which enabled Canadian firms to sell large tonnages of refined metal in the world's markets at competitive prices. Unfortunately they were soon to be faced with the general decline in industrial demand for metals which characterized the early 1930's. High United States tariffs also restricted sales in that country. It was not until about 1935 that industrial recovery and the first stages of rearmament in Europe led to production again approaching capacity. During World War II many ore bodies were "high graded", removing the best ore and losing the lower grade deposits. After the War production declined owing not only to a fall in demand but also because of a return to better conservational practices. Improved technology has permitted the treatment of rock which formerly would have been classified as waste. However in the past few years a renewed defence demand and a greatly expanded civilian economy have been reflected in the output of base metals which reached a postwar peak in 1953. Although production of copper was down 2 p.c., output of all other major base metals was up from the previous year. Nickel production increased by 2 p.c., lead production by 15 p.c., zinc by 8 p.c., aluminum by 10 p.c., and iron ore by 23 p.c.

The transportation equipment group includes four of Canada's largest industries: motor vehicles ranked third with sales of \$836,000,000, aircraft and parts eighth with \$399,000,000, railway rolling stock tenth with \$338,000,000 and motor vehicle parts eleventh with \$308,000,000. The establishment and rapid growth of the motor vehicle industry in Canada was particularly influenced by early tariff policies and by the strong demand for North American type vehicles in many Commonwealth countries and the existence of trade preferences granted by some of these territories to Canada. Another characteristic of the industry has been American ability to supply relatively low-cost components and sub-assemblies, patent rights, technical and managerial skill, research facilities and large amounts of investment capital. During the postwar period the Canadian motor vehicle industry has more than trebled its sales. In 1939 there was one passenger car for every 9.5 persons in the country; in 1953 there was one for every 5.9 persons. The 1953 ratio for all types of motor vehicle was one for every 4.3 persons.

The aircraft and parts industry had its growth accelerated by the defence production program which began with the outbreak of war in Korea in 1950. Features of the expansion were the development of an all-Canadian long-range fighter for defence in the North

and the production of several United States types of defence aircraft. On the civilian side several types of passenger aircraft were developed to meet Canadian flying conditions, especially in the vast areas of the North. These have met with a good response from purchasers abroad as well as at home. This development in aircraft production has been accompanied by the establishment of facilities for producing items new to Canadian manufacturing such as aircraft instruments, needle bearings, and special alloys to withstand the heat of jet engines.

Canada's railway rolling stock industry experienced peaks of activity during and immediately after the two world wars. It enjoyed several years of moderate prosperity in the 1920's but became one of the nation's most depressed industries a few years later. Generally speaking the level of activity in this industry has been closely linked with the financial position of the Canadian railways. The facilities of locomotive and car building companies, dependent almost entirely upon the railways' program of new investment in rolling stock, have been used in an intermittent fashion and prolonged plant shut-downs have not been uncommon. On the other hand outlay on repair and maintenance has usually been necessary on a continuing basis and railway shops and parts suppliers have been less exposed to extreme fluctuations in production and employment. From 1951 to 1953 the industry's sales increased.

The fifth largest manufacturing industry, petroleum products, had a gross value of output of \$695,000,000 in 1953 and is of considerable significance in terms of Canada's balance of payments and strategic importance to the defence of North America. Measured in either bulk or value terms, world production of crude oil is the most important commodity entering international trade. Canada's growing industrialization is reflected in the rising rate at which crude oil is used. There have been three definite phases in the use of oil. The first, which began soon after 1860, was based on kerosene but light petroleum fractions were soon accepted as a cheap and efficient substitute. Other fractions, which make up the rich and complex mixture of hydrocarbons in crude petroleum—ranging from explosively volatile wet gases to heavy oils, waxes and asphalts—were beyond the technology of the day to unravel and the capacity of the economy to absorb. World War I and the maturity of the internal combustion engine marked the second phase. The price of gasoline rose sharply and drilling activity increased all over the world. By 1930 surplus oil production had become general once more and from then until World War II there was from 20 to 25 p.c. surplus capacity in all branches of the industry. With kerosene consumption declining and the use of gasoline becoming general the production of middle distillates and the heavier ends outran the market and they were frequently sold at distress prices. Phase three, which developed out of the second world war, is now asserting itself. For the first time most refineries have few surplus products. Nearly everything from a barrel of crude is being marketed, it now being possible to gear production closely to fluctuations in demand. Behind all this lies modern refinery equipment and techniques which are being used to 'crack' heavy fractions down to lighter ones and, more important still, the domestic oil heater and the diesel engine. Middle distillate consumption has been increasing much more rapidly than that of gasoline in recent years and now serves to underwrite much of the growing demand for crude oil. Although the history of the Canadian crude oil industry dates back almost 100 years, production did not begin to reflect the amount of exploratory drilling done in the Western Provinces until 1936 when Turner Valley was definitely established as a major oil field. Scattered discoveries of little commercial importance had been made before that time and natural gas had been found in abundance. With the exception of the discovery of the heavy crude area at Lloydminster in 1944 no other outstanding developments took place until early 1947 when the Leduc field was discovered. Output had been falling off but in the few years since the Leduc field came into production the Canadian oil outlook has been transformed. In 1946 domestic sources supplied about 10 p.c. of the nation's needs; in 1953 the proportion was 46 p.c.

In 1953 the sawmills produced about \$581,000,000 worth of planks and boards, shingles, railway ties and other sawmill products and thus ranked sixth among Canada's manufacturing industries. Since the early days of Canada the growth of the lumber industry

has reflected the expansion of the Canadian economy. During World War II output was limited only by production facilities and the availability of manpower. Large quantities of lumber were used domestically for the construction of defence establishments and for new munitions factories in the first two years of the War. Later on, demand gradually increased for lumber to make boxes, barrels and crates required for the overseas shipment of munitions, food and supplies. Large volumes of lumber were also used in connection with shipbuilding and aircraft construction and for such essential purposes as mining, manufacture of railway rolling stock and housing. Besides fulfilling domestic requirements, which took an increasing percentage of total production as the War proceeded, Canada maintained at high level its exports to the United Kingdom, to other Commonwealth countries and to the United States. For most of the period since the end of World War II demand for sawmill products has continued to grow. By volume, 46 p.c. of the lumber produced in 1953 was exported.

With production at \$459,000,000 in 1953 the primary iron and steel industry ranked seventh in Canadian manufacturing. After World War II the industry added greatly to its steel making plant and by end of 1953 domestic output reached 4,116,000 tons annually. The trend has been to add rolling mill and other fabricating facilities in order to permit integration and more efficient operation of existing plants. Important technical developments have also been pioneered in Canada, including the continuous casting of steel shapes, and a faster process for the use of oxygen in steel making. Considerable new blast furnace capacity has also been put into operation.

The rubber industry ranked twelfth in 1953 with a gross output of \$291,000,000. This industry forms an adjunct of considerable importance to the cotton yarn and cloth and synthetic textiles industries which supply it with fabrics, yarns, etc., used in manufacturing such items as tires, hose and belting. More tires were sold in 1953 than in 1952 but the total value was about the same. Sales of waterproof and canvas shoes decreased in value by 8 p.c. but increases in the sales of other products raised the industry's sales over 1 p.c. above the 1952 level. Consumption of rubber in 1953 involved 40.8 p.c. synthetic rubber, 42.6 p.c. natural rubber and 16.6 p.c. reclaim.

The men's factory clothing industry ranked fifteenth with output at \$274,000,000 in 1953. The value of shipments was 1.3 p.c. lower than in 1952. This decline followed ten years of successive annual advances and the level of operations was the second highest on record. Suits and overcoats accounted for 4.6 p.c. of the industry's shipments.

PART II.—ANALYSES OF MANUFACTURING STATISTICS

Section 1.—Growth of Manufacturing

This Section gives a summary of the growth of manufacturing in general as shown by comparable principal statistics, i.e., establishments, employees, salaries and wages paid, cost of materials and value of products. Also it includes information on the consumption of manufactured products as well as a treatment of value and volume data.

Subsection 1.—Historical Statistics of Manufacturing

It is impossible to give absolutely comparable statistics of manufacturing over a long period of years. From 1870 to 1915 statistics were collected only in connection with decennial or quinquennial censuses and there was inevitably some variation in the information collected. The annual Census of Manufactures was instituted in 1917 and, though numerous changes have been made since then in the information collected and the treatment of the data, an effort has been made to carry all major revisions back to 1917, so that the figures for the period since then are on a reasonably comparable basis.

Beginning in 1952 the Bureau of Statistics changed its policy with regard to the collection of statistics on the production of manufactured goods. Firms in several industries where year-end inventory changes were known to be insignificant were requested to report

value of shipments f.o.b. plant instead of gross value of products. Under the "value of products" concept, establishments were asked to report the factory selling value of the products made whether sold or not, the unsold portion being assigned the average selling value of similar articles sold during the year. Under the "value of shipments" concept, establishments are required to report their sales during the year regardless of when the products were made, an item usually readily available from the firms' records. The changeover was made to provide increased ease in reporting for the majority of plants and at the same time to produce more reliable and useful statistics.

1.—Summary Statistics of Manufactures 1917-53

NOTE.—Statistics of manufacturing from 1870 have been published but between that year and 1917 figures are not on a comparable basis to the series given below. Statistics for significant years will be found in the 1943-44 Year Book, p. 363. Statistics of the non-ferrous metal smelting industries were first included with manufactures in 1925.

Year	Estab- lish- ments	Employees	Earnings	Cost at Plant of Materials Used	Net Value of Products ¹	Gross Value of Products ⁴
	No.	No.	\$	\$	\$	\$
1917	21,845	606,523	497,801,844	1,539,678,811	1,281,131,980	2,820,810,791
1918	21,777	602,179	567,991,171	1,827,631,548	1,399,794,849	3,227,426,397
1919	22,083	594,066	601,715,668	1,779,056,765	1,442,400,638	3,221,457,403
1920	22,532	598,893	717,493,876	2,085,271,649	1,621,273,348	3,706,544,997
1921	20,848	438,555	497,399,761	1,365,292,885	1,123,694,263	2,488,987,148
1922	21,016	456,256	489,397,230	1,272,513,585	1,103,266,106	2,375,917,691
1923	21,080	506,203	549,529,631	1,456,595,367	1,206,332,107	2,662,927,474
1924	20,709	487,610	534,467,675	1,422,573,946	1,075,458,459	2,570,561,931
1925 ²	20,931	522,924	569,944,442	1,571,788,252	1,167,936,726	2,816,864,958
1926 ²	21,301	559,161	625,682,242	1,712,519,991	1,305,168,549	3,100,604,637
1927 ²	21,501	595,052	662,705,332	1,741,128,711	1,427,649,292	3,257,214,876
1928 ²	21,973	631,429	721,471,634	1,894,027,188	1,597,887,676	3,582,345,302
1929 ²	22,216	666,581	777,291,217	2,029,670,813	1,755,386,937	3,883,446,116
1930 ²	22,618	614,696	697,555,378	1,664,787,763	1,522,737,125	3,280,236,603
1931	23,083	528,640	587,566,990	1,221,911,982	1,252,017,248	2,555,126,448
1932	23,102	468,833	473,601,716	954,381,097	955,960,724	1,980,417,543
1933	23,780	468,658	436,247,824	967,788,928	919,671,181	1,954,075,785
1934	24,209	519,812	503,851,055	1,229,513,621	1,087,301,742	2,393,692,729
1935	24,034	556,664	559,467,777	1,419,146,217	1,153,485,104	2,653,911,209
1936	24,202	594,359	612,071,434	1,624,213,996	1,289,592,672	3,002,403,814
1937	24,834	660,451	721,727,037	2,006,926,787	1,508,924,867	3,625,459,500
1938	25,200	642,016	705,668,589	1,807,478,028	1,428,286,778	3,337,681,366
1939	24,805	658,114	737,811,153	1,836,159,375	1,531,051,901	3,474,783,528
1940	25,513	762,244	920,872,865	2,449,721,903	1,942,471,238	4,529,173,316
1941	26,293	961,178	1,264,862,643	3,296,547,019	2,605,119,788	6,076,308,124
1942	27,862	1,152,091	1,682,804,842	4,037,102,725	3,309,973,758	7,553,794,972
1943	27,652	1,241,068	1,987,292,384	4,690,493,083	3,816,413,541	8,732,860,999
1944	28,483	1,222,882	2,029,621,370	4,832,333,356	4,015,776,010	9,073,692,519
1945	29,050	1,119,372	1,845,773,449	4,473,668,847	3,564,815,899	8,250,368,866
1946	31,249	1,058,156	1,740,687,254	4,358,234,766	3,467,004,980	8,035,692,471
1947	32,734	1,131,750	2,085,925,966	5,534,280,019	4,292,055,802	10,081,026,580
1948	33,420	1,155,721	2,409,368,190	6,632,881,628	4,938,786,981	11,875,169,685
1949 ³	33,792	1,171,207	2,591,890,657	6,843,231,064	5,330,566,434	12,479,593,300
1950	35,942	1,183,297	2,771,267,435	7,538,534,532	5,942,058,229	13,817,526,381
1951	37,021	1,258,375	3,276,280,917	9,074,526,353	6,940,946,783	16,392,187,132
1952	37,929	1,288,382	3,637,620,160	9,146,172,494	7,443,533,199	16,982,687,035 ⁴
1953	38,107	1,327,451	3,957,018,348	9,380,558,682	7,993,069,351	17,785,416,854 ⁴

¹ For 1924 and subsequent years the net value of production is computed by subtracting the cost of fuel and electricity and the cost of materials from the gross value. Figures prior to 1924 are not comparable because statistics for cost of electricity are not available.

² A change in the method of computing the number of wage earners in the years 1925 to 1930 inclusive increased the number somewhat over that which the method otherwise used would have given. In 1931 however the method in force prior to 1925 was re-adopted.

³ Newfoundland included from 1949. ⁴ In 1952 gross value of products was replaced by value of factory shipments; see text immediately preceding this table.

2.—Summary Statistics of Manufactures by Province, Significant Years 1917-53

Province and Year	Estab- lish- ments	Employees	Earnings	Cost at Plant of Materials Used	Net Value of Products ¹	Gross Value of Products ²
	No.	No.	\$	\$	\$	\$
Newfoundland—						
1917.....	793	6,934	15,486,336	31,228,173	32,918,776	67,264,282
1920.....	948	10,303	25,233,851	45,477,620	56,109,014	105,459,684 ²
1953.....	939	10,575	26,604,908	44,972,021	57,784,697	106,524,603 ²
Prince Edward Island—						
1917.....	411	1,556	663,251	3,087,621	1,750,135	4,837,756
1920.....	370	1,287	855,210	4,164,223	2,135,857	6,300,080
1929 ³	263	2,074	727,286	2,862,725	1,466,446	4,408,608
1933.....	249	991	529,684	1,590,834	1,126,826	2,775,787
1939.....	222	1,088	617,945	2,239,117	1,243,979	3,543,681
1944.....	241	1,786	1,694,763	6,993,510	3,570,835	10,713,644
1946.....	246	1,755	1,651,469	7,582,046	3,469,435	11,200,310
1949.....	251	1,747	2,133,555	13,537,144	4,338,320	18,123,200
1952.....	252	1,795	2,805,622	15,786,399	5,597,097	22,069,671 ²
1953.....	216	1,809	3,095,845	16,963,798	5,878,761	23,198,970 ²
Nova Scotia—						
1917.....	1,337	25,252	18,838,051	102,415,215	57,565,703	159,980,918
1920.....	1,345	23,425	25,625,089	85,724,785	61,371,243	147,096,028
1929 ³	1,094	19,986	16,905,885	50,725,562	35,676,421	89,787,548
1933.....	1,277	12,211	9,604,680	25,354,319	19,988,257	47,912,432
1939.....	1,083	17,627	16,651,685	43,332,195	35,885,563	83,139,572
1944.....	1,281	37,812	59,940,411	103,463,123	93,376,638	204,421,664
1946.....	1,397	29,724	43,060,259	100,354,480	71,738,873	178,793,420
1949.....	1,480	29,311	54,686,577	135,841,899	102,294,298	247,592,389
1952.....	1,533	33,371	75,245,387	183,141,366	130,715,000	326,839,747 ²
1953.....	1,591	32,040	76,390,755	180,543,535	127,917,165	320,012,264 ²
New Brunswick—						
1917.....	943	19,710	12,893,014	32,380,621	27,027,725	59,408,346
1920.....	901	19,007	19,266,821	60,812,641	45,803,164	106,615,805
1929 ³	803	17,952	15,127,716	39,800,366	26,640,786	68,145,012
1933.....	747	11,336	9,308,100	20,442,421	18,166,713	41,345,622
1939.....	803	14,501	13,659,162	35,617,614	27,041,195	66,058,151
1944.....	937	23,164	32,345,080	83,993,599	62,258,478	152,106,577
1946.....	993	22,732	33,151,919	96,389,299	67,783,377	170,753,741
1949.....	1,060	23,446	44,219,819	131,804,253	91,187,375	231,506,191
1952.....	1,077	24,251	55,978,462	164,760,874	117,837,471	293,759,782 ²
1953.....	1,094	24,471	59,753,045	163,797,711	120,617,345	295,750,419 ²
Quebec—						
1917.....	7,032	188,043	141,008,616	385,212,984	380,882,409	766,095,393
1920.....	7,530	183,748	202,516,550	553,558,520	499,643,217	1,053,201,737
1929 ³	6,948	206,580	225,226,808	537,270,055	537,796,395	1,108,592,775
1933.....	7,856	157,481	134,696,386	292,560,568	288,504,782	604,496,078
1939.....	8,373	220,321	223,757,767	536,828,039	470,385,279	1,045,757,585
1944.....	9,656	424,115	668,156,053	1,494,253,053	1,350,519,134	2,929,685,183
1946.....	10,818	357,276	565,986,105	1,297,009,099	1,125,991,848	2,497,971,521
1949.....	11,579	390,275	809,579,270	2,027,793,643	1,651,629,668	3,788,497,123
1952.....	12,024	429,698	1,125,944,703	2,745,618,113	2,288,643,279	5,176,234,826 ²
1953.....	12,132	441,555	1,225,573,314	2,816,373,112	2,424,647,499	5,386,784,863 ²
Ontario—						
1917.....	9,061	299,389	258,393,065	794,556,502	662,174,261	1,456,730,763
1920.....	9,113	295,674	362,941,317	1,071,843,374	792,267,562	1,864,110,936
1929 ³	9,348	328,533	406,622,627	1,056,530,202	916,971,816	2,020,492,433
1933.....	9,542	224,816	220,530,088	464,544,563	465,103,842	958,776,558
1939.....	9,824	318,871	378,376,209	907,011,461	791,428,569	1,745,674,707
1944.....	10,731	564,392	975,038,060	2,310,347,858	1,930,043,913	4,339,797,784
1946.....	11,424	495,120	845,216,547	2,001,900,592	1,659,284,622	3,754,523,701
1949.....	12,951	557,190	1,305,544,434	3,256,454,918	2,708,554,013	6,103,804,834
1952.....	13,172	609,696	1,844,186,405	4,387,431,403	3,811,106,576	8,372,173,626 ²
1953.....	13,114	634,554	2,017,982,218	4,560,134,562	4,130,126,462	8,876,504,990 ²

¹ See footnote 1, Table 1.
see text on pp. 624-625.² In 1952 gross value of products was replaced by value of factory shipments;
³ See footnote 2, Table 1.

**2.—Summary Statistics of Manufactures by Province, Significant Years 1917-53—
concluded**

Province or Territory and Year	Estab- lish- ments	Employees	Earnings	Cost at Plant of Materials Used	Net Value of Products ¹	Gross Value of Products ²
	No.	No.	\$	\$	\$	\$
Manitoba—						
1917.....	732	18,939	16,513,423	69,715,149	42,280,801	111,995,950
1920.....	747	23,728	32,372,081	92,729,271	62,776,912	155,506,183
1929 ³	861	24,012	31,224,596	87,832,324	63,925,015	155,266,294
1933 ⁴	1,010	18,871	18,687,430	44,579,998	37,390,275	83,934,777
1939.....	1,087	23,910	28,444,798	82,408,293	48,810,544	134,293,595
1944.....	1,290	40,937	62,758,081	226,234,925	120,339,926	352,334,594
1946.....	1,357	38,367	61,018,345	223,096,935	122,780,805	351,887,099
1949.....	1,520	41,966	86,088,380	299,101,498	167,335,495	474,681,912
1952.....	1,531	43,365	112,147,572	347,664,650	216,814,306	574,037,212 ²
1953.....	1,540	43,740	121,126,279	345,403,115	229,797,439	584,872,459 ²
Saskatchewan—						
1917.....	560	6,230	5,403,332	22,040,674	13,894,179	35,934,853
1920.....	554	6,709	9,571,175	34,894,105	22,610,861	57,504,966
1929 ³	594	7,025	9,105,597	51,003,566	23,002,952	75,368,605
1933.....	673	4,782	4,848,763	19,124,030	11,478,634	31,559,387
1939.....	737	6,475	7,346,127	38,782,135	20,283,273	60,650,589
1944.....	1,054	12,361	17,703,103	131,215,017	40,833,333	175,349,234
1946.....	955	11,957	17,956,317	126,595,761	38,459,630	168,356,619
1949.....	962	10,841	22,273,942	164,349,341	47,356,949	215,742,708
1952.....	1,022	11,307	29,489,862	172,388,119	80,934,157	258,931,776 ²
1953.....	1,062	11,604	32,395,518	180,303,942	79,941,332	266,613,086 ²
Alberta—						
1917.....	636	9,461	8,662,417	42,632,212	23,883,673	66,515,885
1920.....	666	10,955	15,210,628	56,139,646	29,812,891	85,952,537
1929 ³	736	12,216	14,585,734	62,500,175	36,824,969	100,966,196
1933.....	874	9,753	9,573,468	29,425,975	18,876,929	49,395,514
1939.....	961	12,712	14,977,700	53,151,149	32,618,153	87,474,080
1944.....	1,165	22,186	33,227,729	172,082,537	77,415,753	252,949,894
1946.....	1,315	22,649	34,939,088	169,425,176	83,735,011	257,031,867
1949.....	1,685	26,425	55,115,554	251,364,059	114,681,296	371,995,120
1952.....	2,150	31,765	82,527,194	331,817,141	178,221,013	518,410,811 ²
1953.....	2,072	33,082	92,605,153	346,221,162	199,660,428	555,814,827 ²
British Columbia—						
1917 ⁴	1,133	37,943	35,426,675	87,637,833	71,673,094	159,310,927
1920 ⁴	1,306	34,360	49,135,005	125,405,084	104,851,641	230,256,725
1929 ^{3,4}	1,569	48,153	57,764,968	141,145,838	113,082,137	260,418,645
1933 ⁴	1,552	28,417	28,469,225	70,166,220	59,034,923	133,879,330
1939.....	1,710	42,554	53,881,994	136,655,872	103,263,292	247,948,600
1944.....	2,116	96,062	178,639,118	300,500,016	337,137,197	655,844,689
1946.....	2,731	75,484	137,506,645	355,708,533	293,352,652	644,527,898
1949.....	3,493	82,934	196,403,722	531,112,329	409,665,348	959,008,088
1952.....	4,226	92,667	283,530,976	751,011,248	556,172,312	1,332,481,862 ²
1953.....	4,317	93,844	300,921,318	724,495,754	615,686,215	1,366,823,690 ²
Yukon and N.W.T.—						
1939.....	5	55	97,766	138,500	92,054	242,968
1944.....	12	67	118,972	189,718	280,803	489,256
1946.....	13	92	200,560	172,845	408,727	646,295
1949.....	18	148	359,068	643,807	604,896	1,377,453
1952.....	23	164	530,126	1,075,561	1,022,974	2,288,039 ²
1953.....	30	177	569,995	1,349,970	1,012,008	2,516,683 ²

¹ See footnote 1, Table 1.
see text on pp. 624-625.

² In 1952 gross value of products was replaced by value of factory shipments;
³ See footnote 2, Table 1.

⁴ Includes Yukon Territory.

In order to retain some continuity with the past, Table 3 continues the historical series on the chief component material classification basis. Similar statistics under the Standard Classification groups (*see* pp. 635-636), worked back to 1945, are given in Table 10, pp. 637-638.

3.—Summary Statistics of Manufactures by Industrial Group, Significant Years 1917-53

Industrial Group and Year	Establishments	Employees	Earnings	Cost at Plant of Materials Used	Net Value of Products ¹	Gross Value of Products ²
	No.	No.	\$	\$	\$	\$
Vegetable Products—						
1917.....	4,151	62,777	45,915,557	367,214,061	183,782,501	550,996,562
1920.....	4,549	74,241	77,750,189	536,828,044	239,328,371	776,156,415
1929 ³	5,350	91,032	95,853,121	431,595,751	341,688,938	783,706,883
1933.....	5,916	75,416	68,535,349	226,879,373	196,820,952	432,315,617
1939.....	5,872	99,447	104,248,785	356,726,153	292,129,840	659,624,014
1944.....	5,941	130,679	183,943,948	763,606,750	485,551,491	1,270,518,297
1946.....	5,916	137,170	206,893,681	871,436,061	575,963,454	1,469,914,130
1949.....	5,903	143,032	285,536,723	1,236,409,496	754,329,727	2,020,565,833
1952.....	5,826	144,572	365,783,661	1,477,824,823	1,006,127,373	2,519,179,224 ²
1953.....	5,789	146,910	391,317,318	1,446,811,354	1,069,519,644	2,553,043,649 ²
Animal Products—						
1917.....	5,486	46,994	35,753,133	320,302,039	124,103,990	444,406,029
1920.....	4,823	48,687	54,291,606	400,496,354	152,995,130	553,491,484
1929 ³	4,490	67,670	62,081,423	345,351,882	127,929,857	477,761,855
1933.....	4,496	53,111	46,453,188	179,429,948	87,629,444	271,068,210
1939.....	4,362	69,358	68,231,871	333,647,306	122,821,410	461,983,262
1944.....	4,388	94,195	129,215,389	835,586,247	246,064,720	1,092,015,647
1946.....	4,528	102,844	151,517,837	849,242,804	271,279,430	1,132,233,759
1949.....	4,231	102,657	197,189,519	1,158,872,220	369,545,771	1,543,930,584
1952.....	3,912	102,038	242,380,359	1,325,004,126	457,008,034	1,801,102,780 ²
1953.....	3,807	102,853	254,390,114	1,304,984,268	464,425,298	1,788,686,145 ²
Textiles and Textile Products—						
1917.....	1,067	76,978	47,764,436	131,225,032	109,904,530	241,129,562
1920.....	1,304	87,730	84,433,609	256,233,300	173,741,035	429,974,335
1929 ³	1,534	103,881	94,969,433	217,954,088	180,469,064	403,205,809
1933.....	1,740	95,707	72,813,424	143,184,861	131,065,992	279,475,267
1939.....	1,930	121,022	107,117,035	203,618,197	181,927,898	392,657,759
1944.....	2,481	153,122	195,805,681	419,988,642	351,186,488	781,771,688
1946.....	3,082	164,737	228,018,323	459,664,221	418,263,665	888,658,943
1949.....	3,234	186,328	342,930,642	669,108,586	606,402,697	1,290,314,474
1952.....	3,346	183,158	400,480,854	819,392,316	688,806,368	1,524,985,439 ²
1953.....	3,425	186,102	419,993,255	786,921,715	684,807,398	1,488,759,548 ²
Wood and Paper Products—						
1917.....	7,263	152,277	113,359,997	148,277,935	245,372,487	393,650,422
1920.....	7,881	144,391	172,368,578	309,813,724	417,256,115	727,069,839
1929 ³	7,392	164,572	192,088,948	313,797,201	381,485,477	724,972,308
1933.....	7,891	105,080	102,218,652	134,663,641	184,235,540	341,336,701
1939.....	8,538	144,782	165,287,455	246,292,820	303,662,441	579,892,183
1944.....	10,452	189,674	284,436,559	497,656,158	550,826,986	1,093,725,822
1946.....	11,994	224,121	366,049,562	679,343,485	749,055,011	1,484,436,122
1949.....	15,866	262,835	579,896,808	1,061,229,176	1,184,539,519	2,325,304,849
1952.....	17,403	280,337	783,737,813	1,479,484,588	1,607,001,792	3,184,797,667 ²
1953.....	17,431	287,638	847,018,758	1,548,520,873	1,718,181,079	3,369,498,811 ²
Iron and Its Products—						
1917.....	1,495	161,745	161,875,424	378,193,116	371,792,489	749,985,605
1920.....	1,789	164,087	231,595,911	377,499,134	411,875,057	789,374,191
1929 ³	1,224	142,772	203,740,658	405,818,468	367,465,582	790,726,338
1933.....	1,354	73,348	72,296,179	98,793,191	109,198,169	216,828,992
1939.....	1,394	121,041	158,559,728	262,292,781	275,774,796	553,468,880
1944.....	2,192	411,944	818,452,454	1,104,083,922	1,390,703,087	2,540,992,974
1946.....	2,358	249,279	475,812,983	635,344,199	735,459,371	1,405,542,865
1949.....	2,658	265,474	678,924,105	1,197,956,715	1,219,303,992	2,468,376,349
1952.....	2,973	333,132	1,084,755,540	1,951,542,870	1,902,423,464	3,922,647,073 ²
1953.....	3,062	341,933	1,193,220,034	2,011,011,083	2,092,975,109	4,173,007,606 ²

¹ See footnote 1, Table 1.
see text on pp. 624-625.

² In 1952 gross value of products was replaced by value of factory shipments;
³ See footnote 2, Table 1.

3.—Summary Statistics of Manufactures by Industrial Group, Significant Years 1917-53— concluded

Industrial Group and Year	Estab- lish- ments	Employees	Earnings	Cost at Plant of Materials Used	Net Value of Products ¹	Gross Value of Products ²
	No.	No.	\$	\$	\$	\$
Non-ferrous Metal Products—						
1917.....	296	18,220	15,898,890	46,445,469	41,039,351	87,484,820
1920.....	324	23,162	27,895,343	48,434,120	52,847,178	101,281,298
1929 ³	408	39,867	54,501,806	124,900,632	150,415,215	283,545,666
1933.....	478	25,273	28,099,026	71,990,608	88,427,984	164,765,604
1939.....	526	44,563	59,684,858	242,063,177	155,808,806	416,060,459
1944.....	635	104,314	182,909,292	549,317,062	399,498,519	992,345,975
1946.....	740	84,853	150,366,178	413,022,247	278,461,262	719,191,106
1949.....	897	100,614	251,869,627	749,678,627	558,467,028	1,353,329,383
1952.....	953	120,138	384,610,020	1,058,309,597	810,854,261	1,930,991,789 ²
1953.....	973	128,914	429,356,834	1,109,872,109	915,669,987	2,090,201,248 ²
Non-metallic Mineral Products—						
1917.....	1,075	20,795	18,224,724	36,994,392	58,092,396	95,086,788
1920.....	846	25,500	32,351,764	69,856,558	80,205,472	150,062,030
1929 ³	843	29,257	38,958,390	112,573,103	99,065,847	229,774,300
1933.....	770	16,975	19,282,401	69,077,701	52,817,078	131,325,706
1939.....	809	23,026	30,067,934	107,979,292	85,511,631	208,166,781
1944.....	748	31,590	56,130,338	234,714,319	152,525,053	416,268,879
1946.....	910	36,493	63,848,640	240,485,869	173,638,196	446,484,682
1949.....	1,097	42,691	104,377,854	469,437,193	261,691,705	780,188,518
1952.....	1,158	48,327	156,392,092	634,846,809	429,518,608	1,130,487,677 ²
1953.....	1,194	51,464	173,840,508	710,429,489	451,368,806	1,231,998,532 ²
Chemicals and Allied Products—						
1917.....	539	56,153	51,505,484	99,068,092	131,381,995	230,450,087
1920.....	464	17,653	22,193,421	62,644,608	65,183,212	127,827,820
1929 ³	554	16,694	22,639,449	55,184,337	78,785,911	138,545,221
1933.....	696	15,397	18,738,629	34,271,854	55,394,284	92,820,761
1939.....	808	22,595	31,567,558	65,230,839	89,046,832	159,536,984
1944.....	981	81,822	137,422,977	360,412,749	355,260,598	733,569,232
1946.....	1,017	37,278	66,538,532	159,308,350	203,639,442	378,278,284
1949.....	1,022	40,499	98,568,559	238,377,149	279,038,860	536,156,674
1952.....	1,062	46,971	145,647,388	313,340,224	407,215,284	744,630,244 ²
1953.....	1,092	49,532	162,244,979	359,694,270	441,917,417	830,660,405 ²
Miscellaneous Industries—						
1917.....	473	10,584	7,504,199	11,958,675	15,662,241	27,620,916
1920.....	552	13,442	14,613,455	23,465,807	27,841,778	51,307,585
1929 ³	421	10,786	12,457,989	22,495,351	28,081,046	51,207,736
1933.....	459	8,351	7,810,976	9,497,751	14,083,738	24,138,927
1939.....	566	12,280	13,045,929	18,308,810	24,368,247	43,393,206
1944.....	665	25,542	41,304,732	66,967,507	84,159,068	152,484,005
1946.....	704	21,381	31,641,518	50,387,530	61,245,149	112,942,600
1949.....	884	27,077	52,596,820	62,161,902	97,247,135	161,426,636
1952.....	1,296	29,709	73,832,433	86,427,141	134,578,015	223,865,142 ²
1953.....	1,334	32,105	85,636,548	102,313,521	154,204,613	259,560,910 ²

¹ See footnote 1, Table 1.
see text on pp. 624-625.

² In 1952 gross value of products was replaced by value of factory shipments;
³ See footnote 2, Table 1.

The figures in Table 4 trace the tendencies in manufacturing industries as clearly as possible from 1917 to 1953. In analysing statistics of production and materials used, price changes should be borne in mind, particularly the inflation of values in the years immediately following World War I, the drop in prices of commodities during the depressions following 1921 and 1930, and the increases again in World War II and the postwar period. The figure that shows most clearly the trend of development is the use of power. Horsepower employed increased from 1,658,475 in 1917 to 8,159,414 h.p. in 1948, an advance of about 392 p.c. in 31 years. Other interesting comparisons are the trend of value added by manufacture per employee and of average earnings since 1929.

4.—Significant Statistics of Manufactures for Certain Years 1917-53

Item		1917	1920	1929 ¹	1933
Establishments.....	No.	21,845	22,532	22,216	23,780
Total employees.....	"	606,523	598,893	666,531	468,658
Averages per establishment.....	"	27.8	26.6	30.0	19.7
Total earnings.....	\$	497,801,844	717,493,876	777,291,217	436,247,824
Averages per establishment.....	\$	22,788	31,843	34,988	18,345
Averages per employee.....	\$	821	1,198	1,166	931
Supervisory and office employees.....	No.	64,918	78,334	88,841	86,636
Averages per establishment.....	"	3.0	3.5	4.0	3.6
Total earnings.....	\$	85,353,667	141,837,361	175,553,710	139,317,946
Averages per employee.....	\$	1,315	1,811	1,976	1,608
Production workers.....	No.	541,605	520,559	577,690	382,022
Averages per establishment.....	"	24.8	23.1	26.0	16.1
Total earnings.....	\$	412,448,177	575,656,515	601,737,507	296,929,878
Averages per employee.....	\$	762	1,106	1,042	777
Cost of materials.....	\$	1,539,678,811	2,085,271,649	2,029,670,813	967,788,928
Averages per establishment.....	\$	70,482	92,547	91,361	40,698
Averages per employee.....	\$	2,539	3,482	3,045	2,065
Values added by manufacture ²	\$	1,281,131,980	1,621,273,348	1,755,386,937	919,671,181
Averages per establishment ²	\$	58,646	71,954	79,015	38,674
Averages per employee ²	\$	2,112	2,707	2,634	1,962
Gross value of products.....	\$	2,820,810,791	3,706,544,997	3,883,446,116	1,954,075,785
Averages per establishment.....	\$	129,128	164,501	174,804	82,173
Averages per employee.....	\$	4,651	6,189	5,286	4,170
Power employed.....	h.p.	1,658,475	2,068,875	3,855,648	4,135,008
Averages per establishment.....	"	76	92	174	174
Averages per production worker.....	"	3.06	3.97	6.67	10.82
		1939	1944	1952	1953
Establishments.....	No.	24,805	28,483	37,929	38,107
Total employees.....	"	658,114	1,222,882	1,288,382	1,327,451
Averages per establishment.....	"	26.5	42.9	34.0	34.8
Total earnings.....	\$	737,811,153	2,029,621,370	3,637,620,160	3,957,018,348
Averages per establishment.....	\$	29,744	71,257	95,906	103,840
Averages per employee.....	\$	1,121	1,660	2,823	2,981
Supervisory and office employees.....	No.	124,772	192,558	263,027	274,225
Averages per establishment.....	"	5.0	6.8	6.9	7.2
Total earnings.....	\$	217,839,334	418,065,594	923,905,251	1,016,679,409
Averages per employee.....	\$	1,746	2,171	3,513	3,707
Production workers.....	No.	533,342	1,030,324	1,025,355	1,053,226
Averages per establishment.....	"	21.5	36.2	27.0	27.6
Total earnings.....	\$	519,971,819	1,611,555,776	2,713,714,909	2,940,338,939
Averages per employee.....	\$	975	1,564	2,647	2,792
Cost of materials.....	\$	1,836,159,375	4,832,333,356	9,146,172,494	9,380,558,682
Averages per establishment.....	\$	74,024	169,657	241,139	246,163
Averages per employee.....	\$	2,790	3,952	7,099	7,067
Values added by manufacture ²	\$	1,531,051,901	4,015,776,010	7,443,533,199	7,993,069,351
Averages per establishment ²	\$	61,724	140,989	196,249	209,753
Averages per employee ²	\$	2,326	3,284	5,777	6,021
Gross value of products.....	\$	3,474,783,528	9,073,692,519	16,982,687,035 ³	17,785,416,854 ³
Averages per establishment.....	\$	140,084	318,565	447,749 ³	466,723 ³
Averages per employee.....	\$	5,280	7,420	13,185 ³	13,398 ³
Power employed.....	h.p.	5,045,287	6,468,439	4	10,397,703
Averages per establishment.....	"	203	227	4	273
Averages per production worker.....	"	9.46	6.28	4	9.87

¹ A change in the method of computing the number of production workers in the years 1925 to 1930 inclusive increased the number somewhat over that which the method otherwise used would have given. There was therefore a proportionate reduction in the averages for 1925-30 per employee as compared with what these averages would have been under the other method. In 1931 however the method in force prior to 1925 was re-adopted. The figures for 1931 and later years are therefore comparable with those for 1924 and earlier years. ² Net value of products; see footnote 1, Table 1, p. 625. ³ In 1952 gross value of products was replaced by value of factory shipments; see text on pp. 624-625. ⁴ Not collected since 1949.

Consumption of Manufactured Products.—In Table 5 the value of all manufactured commodities made available in 1953 was \$18,523,565,572, a figure obtained by adding to the value of manufactured products the value of the imports of manufactured and partly manufactured goods and deducting the value of the exports. More accurate

statistics could be presented were it possible to exclude from the gross value of manufactured products the duplications involved when the products of one manufacturing establishment become the material worked upon in another. Iron, vegetable, wood and paper, non-ferrous metals and textiles were, in that order, the leading groups in the value of finished products made available for consumption in 1953.

Animal, wood and paper, and non-ferrous metal products were manufactured in Canada in greater quantities than required for home consumption, providing export balances in these groups.

On balance, Canada in the past imported large quantities of iron and steel, textiles, chemicals and non-metallic mineral products despite large home production. The expansion of the iron and steel, chemical and non-metallic mineral products industries will enable Canada to meet more of her requirements for home consumption and to export greater quantities in the future.

5.—Consumption of Manufactured Products, Significant Years 1929-51 and by Industrial Groups 1952 and 1953

Year and Industrial Group	Gross Value of Products Manufactured ²	Manufactured and Partly Manufactured Goods ¹		Value of Manufactured Products Available for Consumption
		Value of Net Imports	Value of Domestic Exports	
	\$	\$	\$	\$
1929.....	3,883,446,116	939,130,201	686,876,071	4,135,700,246
1933.....	1,954,075,785	298,068,344	365,232,113	1,886,912,016
1939.....	3,474,783,528	542,364,930	646,853,938	3,370,294,520
1944.....	9,073,692,519	1,302,413,996	2,668,575,781	7,707,530,734
1946.....	8,035,692,471	1,390,123,100	1,701,677,026	7,724,138,545
1949.....	12,479,593,300	2,043,583,929	2,017,055,615	12,506,121,614
1951.....	16,392,187,132	3,034,709,829	2,749,091,256	16,677,805,705
Industrial Group 1952³				
Vegetable products.....	2,519,179,224	238,550,554	235,150,632	2,522,579,146
Animal products.....	1,801,102,780	46,431,555	89,096,924	1,758,437,411
Textiles and textile products.....	1,524,985,439	250,207,749	26,088,173	1,749,105,015
Wood and paper products.....	3,184,797,667	128,533,506	1,271,578,274	2,041,752,899
Iron and its products.....	3,922,647,073	1,359,518,854	384,612,567	4,897,553,360
Non-ferrous metal products.....	1,930,991,789	245,819,343	571,140,444	1,605,670,688
Non-metallic mineral products.....	1,130,487,677	249,879,373	96,045,997	1,284,421,053
Chemicals and allied products.....	744,630,244	185,943,668	124,565,264	806,008,648
Miscellaneous industries.....	223,865,142	420,399,731	94,265,670	549,996,203
Totals, 1952.....	16,982,687,035²	3,125,381,333	2,892,543,945	17,215,524,423
Industrial Group 1953³				
Vegetable products.....	2,553,043,649	243,365,107	220,942,512	2,575,466,244
Animal products.....	1,788,686,145	47,532,242	100,083,146	1,736,135,241
Textiles and textile products.....	1,488,759,548	297,548,191	22,706,780	1,763,600,959
Wood and paper products.....	3,369,498,811	153,360,817	1,231,305,534	2,291,554,094
Iron and its products.....	4,173,007,606	1,482,001,152	327,595,061	5,327,413,697
Non-ferrous metal products.....	2,090,201,248	329,952,541	528,557,434	1,891,596,355
Non-metallic mineral products.....	1,231,998,532	274,089,469	96,443,473	1,409,644,528
Chemicals and allied products.....	830,660,405	220,107,211	137,885,215	912,882,401
Miscellaneous industries.....	259,560,910	471,461,773	115,750,630	615,272,053
Totals, 1953.....	17,785,416,854²	3,519,418,503	2,781,269,785	18,523,565,572

¹ Figures for the years 1929 and 1933 are for the fiscal years ended Mar. 31 of the following years; for 1939-53 they are for the calendar year. Net imports are total imports less foreign products re-exported.

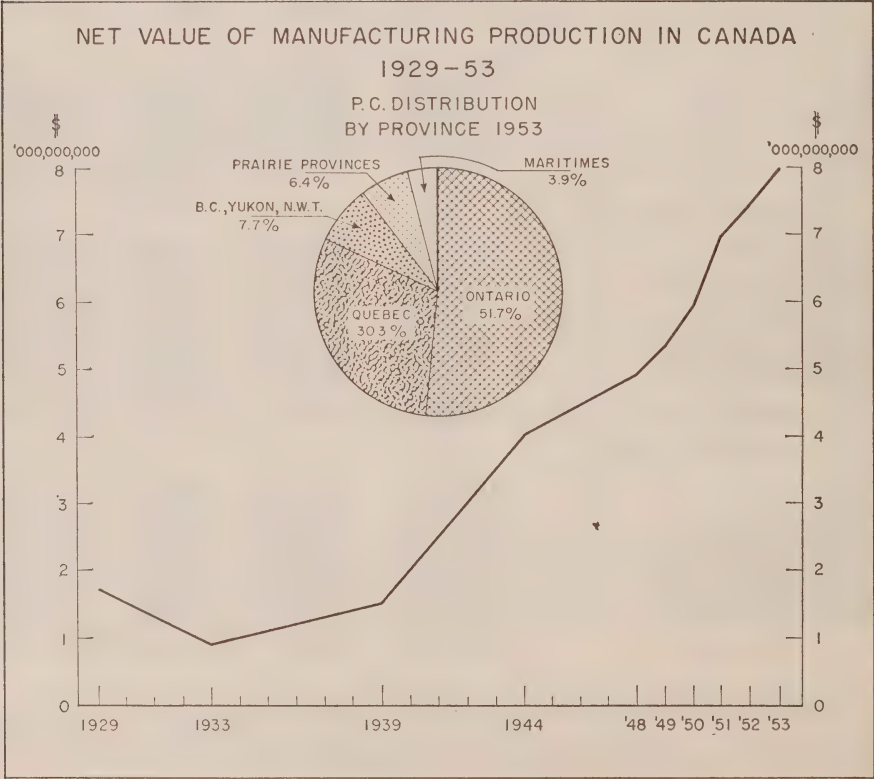
² In 1952 gross value of products was replaced by value of factory shipments; see text on pp. 624-625. ³ Consumption figures for the major standard industrial classification groups (see p. 625) cannot be calculated as statistics of imports and exports are compiled on the component material classification basis.

Subsection 2.—Value and Volume of Manufactured Production

Value of Manufactured Production.—In the interpretation of manufacturing values over a number of years variations in the level of prices must be borne in mind. In recent years owing to large changes in prices, unadjusted value series used in isolation have become increasingly inadequate as indicators of economic trends. Consequently interest has shifted to measures of volume. The range of prices since 1917, on the base period 1935-39 = 100, is as follows:—

Year	General Wholesale Price Index	Price Index of Fully or Chiefly Manufactured Products
1917	148.9	150.9
1920	203.2	208.2
1929	124.6	123.7
1933	87.4	93.3
1939	99.2	101.9
1944	130.6	129.1
1946	138.9	138.0
1949	198.3	199.2
1952	226.0	230.7
1953	220.7	228.8

These factors should be borne in mind when interpreting the trends in the net value of production for the years 1929 to 1953, shown in the Chart below.



Volume of Manufactured Production.—Real income is ultimately measured in goods and services so that the growth of the volume of manufacturing production, as distinguished from its value becomes a matter of great significance. The important thing to know is whether consumers are getting more goods and services and not whether they are expending more dollars and cents. The field of industrial production, because of its dominating position in the national economy, has attracted increasing attention and this in turn has resulted in the need for more accurate measurements of physical output.

During the past few years the Dominion Bureau of Statistics has been engaged in the reconstruction of the index of industrial production* which was first published in 1926 and later subjected to several major revisions. The latest reconstruction was made possible by the availability of a great deal of basic data. Annual statistics valuable for this project have been collected by the Bureau from the end of World War I to the present and the scope of the monthly information has been greatly expanded. Applying methods developed through the experience of the past quarter-century, it has been possible to compute an index with a fair measure of accuracy from 1935 to the present.

The manufacturing sector is divided, at the major group level, into durable manufactures and non-durable manufactures, for the reason that the movement of durable goods normally varies from that of non-durables. There tends to be greater fluctuation in durables from prosperity to depression, the demand for non-durables being more constant.

6.—Index of the Total Volume of Manufactured Production classified on the Basis of Durable and Non-durable Goods 1944-53

(1935-39=100)

NOTE.—Figures for the years 1935-43 are given in the 1955 Year Book, p. 641.

Year	Non-durable Manufactures	Durable Manufactures	All Manufactures	Year	Non-durable Manufactures	Durable Manufactures	All Manufactures
1944.....	179·8	340·1	242·3	1949.....	198·2	246·3	217·0
1945.....	176·3	262·1	209·8	1950.....	208·3	259·1	228·1
1946.....	180·2	205·1	189·9	1951.....	214·0	285·9	242·1
1947.....	191·2	233·5	207·7	1952.....	215·2	294·9	246·3
1948.....	197·1	244·4	215·5	1953.....	224·1	323·9	263·0

The period 1944-53 was characterized by unprecedented industrial expansion. The wartime peak was reached in 1944 when weapons, supplies and equipment were rolling off the assembly lines at record-breaking pace. The end of hostilities and the subsequent reconversion to peacetime production were attended with declines in output in 1945 and 1946 but the upward trend was resumed in 1947. The rate of advance slackened moderately in 1948 and 1949 but regained most of its 1947 impetus in 1950 when the outbreak of hostilities in Korea resulted in heavy anticipatory buying on the part of consumers and in growing expenditures for national defence. A remarkable feature is that in 1952 the index of the volume of manufacturing production stood at 246·3 having surpassed the record wartime level of 242·3 established in 1944. The index continued to advance in 1953, reaching a record high of 263·0.

The increased productive activity which will result from the present very high level of capital investment is not as yet fully reflected in current production statistics. Huge expansion and development programs are well under way in iron ore, aluminum and other metals, oil, chemicals, electric power and in a number of other industries. In addition, federal government expenditure for national defence should still exert some influence on the economic picture.

* For a description of the methods used in constructing the indexes and a description of its scope, see DBS Reference Paper No. 34, *Revised Index of Industrial Production, 1935-1951*.

Non-durable Manufactures.—The trend of output in the non-durable sector of manufacturing from 1944 to 1953 was visibly smoother than in the durable sector. Except for 1945 there has been no interruption in the upward movement of production during the period under review. Production continued to expand after the War although at a slower rate. Unlike durable goods, non-durable commodities are mostly consumer goods and are less influenced by sudden changes in the international situation or the capital investment programs of producers and governments. By 1953 the non-durables index of output had reached 224, the highest on record.

7.—Indexes of the Volume of Manufactured Production of the Groups Comprised within the Non-durable Manufactures Classification 1944-53

(1935-39=100)

NOTE.—Indexes for the years 1935-43 are given in the 1954 Year Book, p. 629.

Year	Food	Beverages	Tobacco and Tobacco Products	Rubber Products	Leather Products	Textile Products (except Clothing)
1944.....	171.1	190.5	200.6	149.0	149.6	162.0
1945.....	170.0	205.1	230.2	180.2	155.0	160.5
1946.....	177.2	234.4	204.4	158.0	167.9	161.7
1947.....	181.5	249.4	211.9	230.7	148.7	172.9
1948.....	183.0	270.9	215.8	227.6	129.6	180.2
1949.....	180.3	285.7	224.4	208.5	133.5	186.0
1950.....	183.6	282.9	227.5	251.9	126.8	212.4
1951.....	188.7	297.7	212.2	264.3	117.0	208.6
1952.....	195.5	323.6	242.3	246.4	128.0	184.1
1953.....	194.0	336.6	269.6	264.2	136.7	187.6
	Clothing (Textile and Fur)	Paper Products	Printing, Publishing and Allied Trades	Products of Petroleum and Coal	Chemicals and Allied Products	
1944.....	147.1	149.1	114.9	171.8	390.4	
1945.....	146.6	161.2	125.8	167.5	292.8	
1946.....	152.9	188.9	143.8	167.4	237.7	
1947.....	147.7	207.4	163.3	181.2	245.5	
1948.....	156.0	217.7	177.2	199.0	243.2	
1949.....	159.4	213.7	183.8	218.0	239.5	
1950.....	155.7	230.4	195.3	243.5	253.7	
1951.....	149.7	247.8	194.7	274.9	267.8	
1952.....	154.4	235.5	192.4	295.1	272.4	
1953.....	167.3	244.7	204.8	324.3	284.4	

Durable Manufactures.—On the base of 1935-39 the new volume index of durable manufactures reached a peak of 340 in 1944. In the following two years it declined sharply and stood at 205 in 1946. Since then it has regained almost half the lost ground and reached 324 in 1953.

The largest gain occurred in the output of transportation equipment. Owing principally to the tremendous increases in production of ships and aircraft, the index for this group of industries rose to the record level of 694 in 1944. After reaching a postwar low of 222 in 1946 the index rose moderately during the next three years but, spurred by the great demand for passenger cars and by the renewal of defence production, marked gains were made since 1950, the index climbing to 436 in 1953.

Canada's industrialization program, together with strong postwar demand for consumer durable goods, led to steady expansion of the iron and steel group of industries so that by 1953 the index for the group stood at 291. Compared with prewar, pig iron output had more than tripled and steel ingot and casting production had risen by 170 and 74 p.c. respectively. The additional capacity constructed during the past few years should reduce still further the country's dependence on United States imports of finished and semi-finished iron and steel shapes. Indicative of the rapid growth of the industry in recent years is the amount of funds expended for new plant, machinery and equipment. From an average annual expenditure of \$62,000,000 during the previous five years, new investment jumped to \$136,000,000 in 1952 and \$114,000,000 in 1953.

8.—Indexes of the Volume of Manufactured Production of the Groups Comprised within the Durable Manufactures Classification 1944-53

(1935-39=100)

NOTE.—Indexes for the years 1935-43 are given in the 1954 Year Book, p. 630.

Year	Wood Products	Iron and Steel Products	Transportation Equipment	Non-ferrous Metal Products	Electrical Apparatus and Supplies	Non-metallic Mineral Products	Miscellaneous Manufactures
1944.....	153.4	326.2	693.7	256.2	312.1	205.3	317.1
1945.....	155.6	265.2	453.7	193.4	258.1	195.8	275.9
1946.....	175.0	222.6	221.5	160.1	247.3	221.4	225.0
1947.....	195.6	249.9	239.5	182.8	316.8	269.8	233.4
1948.....	200.7	270.4	232.6	201.6	328.5	283.7	224.5
1949.....	202.3	264.5	243.9	200.5	333.8	284.4	261.6
1950.....	215.1	263.2	262.2	212.8	367.6	314.6	281.7
1951.....	220.6	292.2	315.0	234.7	392.3	342.1	283.2
1952.....	214.1	292.7*	373.1	232.2	393.1	346.1	280.7
1953.....	235.3	290.8	436.3	243.3	486.7	399.0	323.6

Section 2.—Production by Industrial Group and Individual Industries

The Standard Classification adopted in 1949 groups the manufacturing industries of Canada under the seventeen major headings listed in Table 9 instead of under the nine groups listed in Table 3 which were formerly used as the basis of classification. Summary statistics for the main groups on the Standard Classification basis are given for alternate years 1945 to 1953 in Table 10, while 1953 statistics are presented in detail in Tables 11 and 12. Table 13 classifies manufactures by origin of materials.

Subsection 1.—Manufactures Grouped on the Standard Classification Basis

Recent Changes in Manufacturing Production.—Tables 9 and 10 show the changes in the nature of manufacturing production since the end of World War II with regard to numbers employed, salaries and wages paid, and gross value of products.

Significant changes in the nature of manufacturing production took place after the cessation of hostilities in 1945. Industries engaged in war production operated at a substantially lower level, while industries producing consumer goods stepped up their production. From the point of view of employment the chemical and allied products group with a drop of 33 p.c. experienced the greatest decline in production between 1945 and 1949.

Between 1949 and 1953, for manufacturing as a whole, there was an increase of 42.4 p.c. in the gross value of shipments, 13.1 p.c. in employment and 52.5 p.c. in salaries and wages paid. In terms of employment, the transportation group with an increase of 49.0 p.c. experienced the greatest expansion since 1949. Electrical apparatus and supplies

came second with 37.4 p.c. followed by non-metallic mineral products with 22.1 p.c., miscellaneous industries 22.1 p.c., chemicals and allied products 21.5 p.c., products of petroleum and coal 17.6 p.c., non-ferrous metal products 16.5 p.c., iron and steel products 15.0 p.c. The smallest gain was reported by the clothing group with 2.0 p.c. Three groups reported declines in employment; tobacco and tobacco products led the list with 11.2 p.c., followed by textiles (except clothing) 5.9 p.c. and leather products 5.2 p.c.

9.—Percentage Variations in Employment, Earnings and Gross Value of Products in the Main Industrial Groups, 1949 Compared with 1945, and 1953 with 1949

Industrial Group	1949 Compared with 1945			1953 Compared with 1949		
	Em- ployees	Total Earnings	Gross Value of Products	Em- ployees	Total Earnings	Value of Factory Ship- ments ¹
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Food and beverages.....	+ 8.1 ²	+48.5 ²	+49.5 ²	+ 2.4	+35.9	+20.7
Tobacco and tobacco products.....	-12.2	+39.1	+42.3	-11.2	+22.2	+24.2
Rubber products.....	-11.8	+23.2	+ 1.6	+ 9.0	+47.4	+62.9
Leather products.....	+ 2.3	+38.0	+25.6	- 5.2	+18.9	+ 5.5
Textile products (except clothing).....	+18.9	+78.6	+65.1	- 5.9	+18.2	+10.0
Clothing (textile and fur).....	+17.8	+57.1	+52.6	+ 2.0	+23.2	+17.9
Wood products.....	+28.9 ²	+86.7 ²	+83.9 ²	+10.4	+44.8	+47.7
Paper products.....	+20.7 ²	+80.5 ²	+95.1 ²	+10.4	+48.8	+43.5
Printing, publishing and allied trades ³	+31.2	+81.2	+84.1	+ 7.6	+45.3	+43.9
Iron and steel products.....	- 3.4	+31.6	+49.0	+15.0	+55.7	+47.9
Transportation equipment.....	-32.4	-17.1	+ 2.8	+49.0	+105.1	+96.6
Non-ferrous metal products.....	+ 1.1	+39.9	+58.0	+16.5	+56.0	+43.2
Electrical apparatus and supplies.....	+26.7	+79.5	+110.9	+37.4	+82.6	+74.4
Non-metallic mineral products.....	+38.8	+96.0	+88.6	+22.1	+66.0	+65.9
Products of petroleum and coal.....	+26.2	+73.7	+97.6	+17.6	+67.3	+54.2
Chemical products.....	-32.6	- 6.0	+17.8	+21.5	+63.5	+50.1
Miscellaneous industries.....	4	4	4	+22.1	+68.1	+67.1
Averages, All Groups².....	+ 3.6²	+39.2²	+50.0²	+13.1	+52.5	+42.4

¹ Compared with gross value of products figures for 1949.

² Excludes Newfoundland.

³ Excludes

"Publishing (only) of Periodicals". ⁴ Owing to the change of establishments from one industry to another, figures for 1949 are not comparable with those for previous years.

10.—Summary Statistics of Manufactures by Industrial Group, Alternate Years 1945-53

NOTE.—Figures for 1946, 1948 and 1950 will be found in the 1952-53 Year Book, pp. 611-613; those for 1952 are given at pp. 645-647 of the 1955 edition.

Industrial Group and Year	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Gross Value of Products ¹
	No.	No.	\$	\$	\$	\$
Food and Beverages—²						
1945.....	8,872	156,396	224,908,882	1,336,820,028	558,247,045	1,921,774,601
1947.....	8,869	167,865	276,245,015	1,656,529,086	695,092,932	2,383,975,675
1949.....	8,558	170,024	332,536,319	2,009,246,062	834,017,547	2,882,581,753
1951.....	8,388	172,493	392,859,435	2,419,206,798	985,240,884	3,450,030,515
1953.....	8,129	176,649	455,280,552	2,296,739,737	1,146,473,720	3,491,961,511 ¹
Tobacco and Tobacco Products—						
1945.....	86	12,164	15,738,041	79,176,519	42,985,992	122,543,932
1947.....	91	10,880	16,234,772	97,121,002	49,221,094	146,793,011
1949.....	72	10,686	21,896,378	113,357,196	58,529,226	172,420,213
1951.....	62	9,826	24,438,218	119,590,053	59,033,325	179,177,093
1953.....	55	9,494	26,765,643	138,491,048	75,015,218	214,145,491 ¹

¹ In 1952 gross value of products was replaced by value of factory shipments; see text on pp. 624-625.

² Ex-

cludes fish processing in Newfoundland 1945-49.

**10.—Summary Statistics of Manufactures by Industrial Group, Alternate Years
1945-53—continued**

Industrial Group and Year	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Gross Value of Products ¹
	No.	No.	\$	\$	\$	\$
Rubber Products—						
1945.....	55	23,490	39,111,477	78,500,892	98,836,225	181,413,226
1947.....	60	23,475	46,613,893	82,934,625	110,873,007	196,307,734
1949.....	62	20,729	48,172,207	73,895,718	101,705,513	178,503,559
1951.....	67	23,054	64,357,696	146,951,650	161,184,980	311,678,489
1953.....	72	22,600	70,994,643	114,336,694	172,674,055	290,735,459 ¹
Leather Products—						
1945.....	706	34,123	43,268,635	95,006,015	71,297,713	167,888,463
1947.....	792	35,724	52,628,612	123,894,474	86,646,061	212,430,165
1949.....	747	34,900	59,699,886	117,869,462	91,157,684	210,804,174
1951.....	711	31,578	59,668,764	135,114,110	84,885,048	221,882,794
1953.....	695	33,068	70,965,495	116,416,179	103,937,262	222,410,182 ¹
Textile Products (except Clothing)—						
1945.....	664	66,011	88,372,939	127,289,281	165,689,522	391,182,025
1947.....	747	73,979	116,228,736	289,986,732	215,170,493	514,844,838
1949.....	847	77,773	156,166,554	339,644,950	285,641,367	636,824,130
1951.....	892	81,710	185,030,489	495,304,102	337,936,447	846,477,303
1953.....	959	73,190	184,604,616	388,324,584	299,231,284	700,690,265 ¹
Clothing (incl. Knitting Mills)—						
1945.....	2,676	99,959	131,478,496	251,899,847	222,307,384	476,754,319
1947.....	3,121	110,329	166,951,727	311,018,817	300,527,093	614,594,703
1949.....	3,058	117,752	206,512,782	371,128,833	352,741,236	727,498,836
1951.....	3,083	115,733	222,364,947	405,347,118	370,672,177	780,012,025
1953.....	2,904	24,413	52,420,681	77,704,172	81,264,425	160,792,342
Knitting mills.....	2,788	95,658	202,005,279	361,558,482	333,238,797	697,188,671 ¹
Wood Products—						
1945.....	7,656	93,209	119,833,932	240,482,275	208,979,657	454,447,165
1947.....	9,744	120,434	186,467,946	398,854,196	365,050,223	771,403,332
1949.....	11,191	121,632	224,902,644	436,637,453	393,928,758	840,355,634
1951.....	11,975	131,278	283,062,074	610,807,577	529,300,377	1,153,376,772
1953.....	12,462	134,310	325,619,252	649,731,056	577,381,926	1,242,014,812 ¹
Paper Products—						
1945.....	475	60,819	109,627,174	255,265,326	241,121,150	536,859,861
1947.....	502	73,445	168,632,394	410,456,570	443,374,435	911,238,813
1949.....	524	76,471	208,348,621	494,300,501	532,288,636	1,093,060,326
1951.....	547	82,889	276,521,006	683,488,653	827,924,962	1,589,842,162
1953.....	555	84,436	310,107,707	717,460,043	767,273,583	1,568,250,521 ¹
Printing, Publishing and Allied Trades—						
1945.....	2,312	43,565	74,257,775	52,655,848	132,385,988	186,945,134
1947.....	2,458	52,096	101,611,652	82,585,466	178,667,051	263,632,152
1949.....	3,866	61,834	141,489,984	124,684,351	250,162,704	377,908,182
1951.....	4,019	64,694	170,828,730	152,753,412	295,642,569	452,142,515
1953.....	4,167	66,530	205,626,554	175,222,037	364,363,975	543,752,372 ¹
Iron and Steel Products—						
1945.....	1,903	169,278	313,966,173	395,624,098	527,473,688	952,482,150
1947.....	2,200	162,399	334,044,246	451,289,335	580,342,444	1,064,654,410
1949.....	2,347	163,622	413,227,553	619,499,256	760,934,249	1,419,145,725
1951.....	2,435	183,323	547,314,615	860,565,510	991,334,800	1,904,650,130
1953.....	2,698	188,236	643,474,127	906,165,239	1,140,931,549	2,098,551,079 ¹
Transportation Equipment—						
1945.....	504	154,844	326,748,794	498,241,686	523,910,119	1,034,666,913
1947.....	562	104,348	230,898,680	426,573,091	366,151,761	803,611,372
1949.....	596	104,750	270,852,111	584,064,330	466,529,164	1,063,211,331
1951.....	599	122,517	368,106,433	870,178,794	657,424,400	1,541,589,828
1953.....	621	156,059	555,411,152	1,110,953,581	961,205,155	2,089,937,633 ¹
Non-ferrous Metal Products—						
1945.....	436	44,221	81,889,942	337,872,041	180,653,076	548,853,026
1947.....	503	43,344	91,046,568	434,517,197	201,162,856	668,074,514
1949.....	532	44,698	114,591,106	537,218,214	289,125,045	867,043,028
1951.....	536	50,114	150,733,704	797,412,763	406,616,836	1,253,599,168
1953.....	551	52,058	178,710,057	726,128,115	458,180,471	1,242,010,994 ¹

¹ In 1952 gross value of products was replaced by value of factory shipments; see text on pp. 624-625.

**10.—Summary Statistics of Manufactures by Industrial Group, Alternate Years
1945-53—concluded**

Industrial Group and Year	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Gross Value of Products ¹
	No.	No.	\$	\$	\$	\$
Electrical Apparatus and Supplies—						
1945.....	247	44,129	76,468,795	92,041,030	135,919,899	230,531,874
1947.....	296	52,736	103,891,016	162,131,266	200,859,040	366,506,203
1949.....	365	55,916	137,278,521	212,460,413	269,341,983	486,286,355
1951.....	373	67,626	194,749,038	316,561,307	353,602,872	676,008,959
1953.....	422	76,856	250,646,777	383,743,994	457,489,516	848,190,254 ¹
Non-metallic Mineral Products—						
1945.....	700	20,269	32,959,877	41,488,955	76,318,456	130,704,796
1947.....	863	26,443	50,456,143	66,266,546	115,277,990	201,786,910
1949.....	1,020	28,139	64,594,354	78,401,065	143,872,615	246,457,799
1951.....	1,042	31,622	86,078,972	109,011,701	195,348,829	334,875,398
1953.....	1,094	34,352	107,275,074	134,118,848	239,815,853	408,909,192 ¹
Products of Petroleum and Coal—						
1945.....	80	11,532	22,904,418	188,899,911	65,637,131	270,166,984
1947.....	80	12,769	28,689,932	257,420,851	84,073,746	361,333,008
1949.....	77	14,552	39,783,500	391,036,128	117,819,090	533,730,719
1951.....	82	15,598	51,947,890	497,982,695	179,872,590	709,550,035
1953.....	100	17,112	66,565,434	576,310,641	211,552,953	823,089,340 ¹
Chemicals and Allied Products—						
1945.....	986	61,339	107,050,824	228,855,956	252,944,165	498,630,798
1947.....	1,046	39,237	78,993,517	238,310,157	234,056,973	488,307,293
1949.....	1,037	41,328	100,690,662	280,008,945	288,171,551	587,398,215
1951.....	1,037	45,664	131,310,151	366,957,695	384,026,141	776,489,391
1953.....	1,105	50,207	164,590,810	403,686,331	448,276,576	881,503,845 ¹
Miscellaneous Industries—						
1945.....	692	24,024	37,187,275	83,549,139	59,608,689	144,523,599
1947.....	800	22,247	36,291,117	44,390,608	65,708,603	111,532,447
1949.....	893	26,401	51,147,475	59,778,187	94,600,066	156,363,321
1951.....	1,173	28,756	66,908,755	87,292,415	120,899,546	210,804,555
1953.....	1,350	32,223	85,954,495	103,467,901	154,763,033	261,282,891 ¹

¹ In 1952 gross value of products was replaced by value of factory shipments; see text on pp. 624-625.

Detailed Statistics by Group and Individual Industries.—Table 11 presents for the year 1953 detailed statistics regarding the individual industries under which all industrial plants in Canada are classified. The industries are assembled under seventeen main groups according to the Standard Industrial Classification.

In interpreting the statistics of individual industries it should be remembered that the figures on employment, production, etc., do not refer to individual products but to all the products made in an industry. For example the value of production of the confectionery industry amounting to \$98,782,944 in 1953 does not imply that this was the value of confectionery produced. What it means is that the firms whose principal product is confectionery had a value of production of \$98,782,944. This figure, in addition to confectionery, includes all the subsidiary products made by these firms, such as ice cream which was valued at \$2,912,810 and bread and other bakery products valued at \$2,688,068. Confectionery is also produced as a subsidiary product by firms credited to other industrial classifications. The quantities and values of the principal individual commodities produced are given in Table 12. Commodities produced in small quantities are not included but the list covers approximately 75 p.c. of total production.

11.—Principal Statistics of Individual Manufacturing Industries classified on the Standard Classification Basis 1953

Group and Industry	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
Food and Beverages—						
Bakery Products—						
Biscuits.....	47	6,781	14,271,755	34,603,257	39,871,435	75,515,408
Bread and other bakery prod- ucts.....	2,571	33,540	80,902,687	129,224,657	139,987,817	277,998,092
Beverages—						
Breweries.....	61	8,383	31,737,897	51,482,008	146,805,908	200,885,656
Carbonated beverages.....	526	7,838	20,485,552	35,493,245	70,496,063	108,560,409
Distilled liquors.....	21	5,110	15,432,739	44,308,034	76,918,492	123,277,097
Wines.....	24	524	1,808,840	4,481,979	5,042,665	9,656,670
Canning and Processing—						
Fish processing.....	607	13,623	23,169,629	85,773,130	49,435,356	137,635,369
Fruit and vegetable prepara- tions.....	454	15,385	32,838,899	119,911,000	82,491,454	205,119,469
Dairy Products—						
Butter and cheese.....	1,527	20,697	52,507,579	293,915,639	95,787,291	396,955,715
Cheese, process.....	20	1,170	3,063,957	21,733,959	5,433,093	27,271,289
Concentrated milk products...	31	1,622	4,466,166	51,952,683	14,214,469	67,747,153
Dairy products, other.....	44	842	2,140,213	6,729,280	5,637,820	12,696,538
Grain Mill Products—						
Feeds, stock and poultry, prepared.....	654	5,760	13,861,889	137,828,019	30,291,490	170,433,683
Feed mills.....	643	1,473	2,336,382	20,156,743	4,622,227	25,351,198
Flour mills.....	95	4,962	14,946,310	224,518,387	40,262,095	266,430,548
Foods, breakfast.....	18	1,329	4,005,639	9,963,960	14,528,552	24,864,504
Meat Products—						
Animal oils and fats.....	15	300	959,473	1,473,868	1,684,397	3,376,412
Sausage and sausage casings...	84	1,367	3,330,391	12,405,672	6,787,174	19,491,754
Slaughtering and meat packing	152	22,887	74,431,943	672,763,955	152,022,908	829,468,022
Other Food Industries—						
Confectionery.....	187	9,358	20,197,150	53,265,893	44,375,451	98,782,944
Macaroni and kindred products	14	553	1,399,242	4,787,233	3,191,101	8,124,698
Sugar refining.....	12	3,388	10,958,086	79,588,400	35,721,466	117,952,452
Food preparations, <i>n.e.s.</i>	322	9,757	26,028,134	200,378,736	80,864,996	284,366,431
Totals, Food and Beverages...	8,129	176,649	455,280,552	2,296,739,737	1,146,473,720	3,491,961,511
Tobacco and Tobacco Products—						
Tobacco, cigars and cigarettes...	42	7,711	23,376,081	79,261,880	67,702,851	147,388,329
Tobacco, processing and packing...	13	1,783	3,389,562	59,229,168	7,312,367	66,757,162
Totals, Tobacco and Tobacco Products.....	55	9,494	26,765,643	138,491,048	75,015,218	214,145,491
Rubber Products—						
Rubber goods (including foot- wear).....	72	22,600	70,994,643	114,336,694	172,674,055	290,735,459
Totals, Rubber Products.....	72	22,600	70,994,643	114,336,694	172,674,055	290,735,459
Leather Products—						
Footwear, leather.....	286	21,497	44,036,122	65,210,564	65,466,899	131,307,119
Gloves and mittens, leather....	80	2,063	3,603,161	4,801,051	4,832,932	9,686,441
Leather tanning.....	60	4,051	11,757,538	30,354,423	16,530,503	47,996,398
Belting, leather.....	14	162	444,437	963,801	760,601	1,745,383
Boot and shoe findings, leather..	29	616	1,530,633	3,146,511	2,183,960	5,417,064
Miscellaneous, <i>n.e.s.</i>	226	4,674	9,593,604	11,939,829	14,162,367	26,257,777
Totals, Leather Products.....	695	33,068	70,965,495	116,416,179	103,937,262	222,410,182
Textiles—						
Cotton Goods—						
Cotton thread.....	13	902	2,144,435	4,947,687	5,184,901	10,229,743
Cotton yarn and cloth.....	54	23,178	55,036,540	132,917,545	73,326,204	210,220,958
Miscellaneous cotton goods.....	13	728	2,115,561	6,437,111	6,158,846	10,737,773

¹ In 1952 gross value of products was replaced by value of factory shipments; see text on pp. 624-625.

**11.—Principal Statistics of Individual Manufacturing Industries classified on the
Standard Classification Basis 1953—continued**

Group and Industry	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
Textiles—concluded						
Woolen Goods—						
Carpets, mats and rugs.....	20	1,563	4,088,553	7,324,225	6,355,313	13,943,949
Woolen cloth.....	82	7,785	18,997,252	34,387,199	25,607,230	61,441,236
Woolen yarn.....	48	3,585	8,304,524	22,816,140	12,685,047	36,030,551
Miscellaneous woolen goods...	37	2,273	6,556,175	18,794,880	12,245,778	31,453,040
Synthetic textiles and silk.....	47	15,723	43,939,105	63,938,444	78,585,277	146,418,307
Other Primary Textiles—						
Dyeing and finishing of textiles	56	2,255	6,153,225	3,165,944	9,094,314	13,104,552
Narrow fabrics.....	52	2,163	5,020,791	7,840,738	9,406,856	17,453,760
Other Textile Industries—						
Automobile accessories, fabric.	16	1,083	2,868,803	6,248,415	5,023,787	11,340,386
Awnings, tents and sails.....	116	1,579	3,322,604	6,949,933	5,341,780	12,392,074
Bags, cotton and jute.....	34	1,196	2,677,515	21,611,488	3,609,653	25,321,927
Cordage, rope and twine.....	14	1,188	3,570,086	7,336,124	10,324,294	17,866,014
Embroideries, pleating, hem- stitching, etc.....	155	1,968	3,991,932	3,419,135	6,733,185	10,208,233
Oilcloth, linoleum and other coated fabric.....	15	2,236	7,470,347	15,219,537	15,114,883	30,833,083
Textiles, <i>n.e.s.</i>	187	3,785	8,347,168	24,970,039	16,433,936	41,694,679
Totals, Textiles.....	959	73,190	184,604,616	388,324,584	299,231,284	700,690,265
Knitting Mills—						
Hosiery.....	122	10,569	24,829,520	23,153,148	38,595,166	62,510,057
Knitted goods.....	172	13,844	27,591,161	54,551,024	42,669,259	98,282,285
Totals, Knitting Mills.....	294	24,413	52,420,681	77,704,172	81,264,425	160,792,342
Clothing—						
Men's, Women's and Children's Clothing—						
Clothing, children's factory...	169	6,893	12,144,992	24,782,163	20,420,727	45,347,640
Clothing, men's factory.....	601	35,119	74,709,888	147,283,980	125,833,604	273,946,025
Clothing, women's factory.....	830	28,277	61,838,049	116,186,888	103,679,336	220,410,178
Clothing contractors, men's...	160	4,484	7,862,881	870,477	9,877,576	10,877,993
Clothing contractors, women's	107	2,307	3,598,498	223,364	5,125,412	5,399,344
Miscellaneous Clothing—						
Corsets.....	42	3,639	6,556,311	8,852,984	13,107,086	22,028,653
Fur dressing and dyeing.....	16	1,214	3,189,567	1,026,173	4,810,139	5,920,014
Fur goods.....	600	5,945	15,847,754	39,639,350	24,116,969	63,991,716
Gloves and mittens, fabric....	15	847	1,086,820	2,112,018	2,030,640	4,164,952
Hats and caps.....	166	4,928	11,057,900	11,741,210	17,660,028	29,631,925
Oiled and waterproofed cloth- ing.....	15	497	1,170,301	2,568,127	1,740,607	4,322,935
Clothing, <i>n.e.s.</i>	67	1,508	2,942,318	6,271,748	4,836,673	11,147,296
Totals, Clothing.....	2,788	95,658	202,005,279	361,558,482	333,238,797	697,188,671
Wood Products—						
Furniture.....	1,640	29,768	75,836,177	107,747,252	121,482,928	231,557,354
Saw and Planing Mills—						
Flooring, hardwood.....	27	1,512	3,823,071	7,992,330	5,983,223	14,142,420
Sash, door and planing mills...	1,775	20,241	48,119,296	120,988,715	77,217,333	200,929,152
Sawmills.....	8,194	60,933	142,131,003	304,584,643	269,066,309	580,693,704
Veneers and plywoods.....	54	8,995	25,458,858	42,944,218	53,337,816	97,259,976
Other Wood Industries—						
Beekeepers' and poultrymen's supplies.....	7	51	97,900	137,560	173,700	315,820
Boxes and baskets, wood.....	180	3,737	8,096,331	11,717,320	13,676,932	25,758,124
Cooperage.....	99	665	1,560,201	3,724,733	2,683,621	6,497,597
Excelsior.....	13	161	308,789	351,549	425,206	808,586

¹ In 1952 gross value of products was replaced by value of factory shipments; see text on pp. 624-625.

**11.—Principal Statistics of Individual Manufacturing Industries classified on the
Standard Classification Basis 1953—continued**

Group and Industry	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
Wood Products—concluded						
Lasts, trees and shoe findings..	15	583	1,293,831	1,199,706	1,912,168	3,146,675
Morticians' goods.....	60	1,365	3,103,374	3,760,535	5,166,592	9,041,380
Woodenware.....	31	725	1,426,725	1,596,949	1,826,534	3,486,081
Wood turning.....	74	1,136	2,479,649	2,524,182	3,557,381	6,190,599
Wood products, <i>n.e.s.</i>	293	4,438	11,884,047	40,461,364	20,872,183	62,187,344
Totals, Wood Products.....	12,462	134,310	325,619,252	649,731,056	577,381,926	1,242,014,812
Paper Products—						
Boxes and bags, paper.....	192	14,042	38,752,738	115,598,568	81,755,394	198,540,167
Pulp and paper.....	127	58,194	235,741,660	499,350,994	599,934,934	1,179,665,443
Roofing paper.....	26	2,477	7,803,402	20,315,397	21,809,977	42,773,877
Miscellaneous paper goods.....	210	9,723	27,809,907	82,195,084	63,773,278	147,270,934
Totals, Paper Products.....	555	84,436	310,107,707	717,460,043	767,273,583	1,568,250,521
Printing, Publishing and Allied Industries—						
Commercial Printing—						
Printing and bookbinding.....	1,696	23,846	68,382,615	62,093,666	112,606,355	176,176,468
Trade composition.....	50	813	3,131,918	350,246	4,351,058	4,743,865
Engraving, Stereotyping and Allied Industries—						
Engraving, stereotyping and electrotyping.....	129	4,196	16,606,318	6,186,600	25,351,801	31,823,476
Lithographing.....	74	4,248	13,784,743	17,067,222	24,152,249	41,446,820
Printing and Publishing—						
Printing and publishing.....	795	28,499	93,821,611	66,814,175	174,943,176	243,892,279
Publishing (only) of periodicals	1,413	4,928	9,899,349	22,710,128	22,959,336	45,669,464
Totals, Printing, Publishing and Allied Industries.....	4,157	66,530	205,626,554	175,222,037	364,363,975	543,752,372
Iron and Steel Products—						
Agricultural implements.....	80	14,161	50,302,007	90,344,539	79,100,472	171,269,525
Boilers, tanks and platework.....	82	8,958	32,480,753	37,290,528	59,226,747	97,649,143
Bridge building and structural steel.....	47	11,243	42,534,324	64,196,383	90,785,457	156,327,770
Castings, iron.....	201	15,346	52,985,576	69,150,209	85,034,389	157,465,126
Hardware, tools and cutlery.....	351	14,422	45,939,345	40,771,452	84,772,624	127,309,572
Heating and cooking apparatus.....	117	9,218	28,115,693	43,613,972	52,427,259	97,356,537
Machinery, household, office and store.....	76	9,992	31,420,559	44,580,753	53,430,422	98,969,517
Machinery, industrial.....	312	22,163	75,295,453	78,394,744	145,229,561	225,962,481
Machine shops.....	625	6,509	19,582,628	13,617,124	28,654,457	43,040,695
Machine tools.....	13	1,956	7,242,055	5,433,835	11,802,410	17,412,017
Primary iron and steel.....	62	34,956	129,709,556	212,374,287	216,957,645	458,904,255
Sheet metal products.....	316	18,275	58,831,831	119,186,160	103,826,528	225,423,031
Wire and wire goods.....	122	8,634	28,656,098	37,046,455	66,299,473	104,858,014
Miscellaneous iron and steel products.....	294	12,403	40,378,249	50,164,798	63,384,105	116,603,396
Totals, Iron and Steel Products.....	2,698	188,236	643,474,127	906,165,239	1,140,931,549	2,098,551,079
Transportation Equipment—						
Aircraft and parts.....	43	38,048	142,375,699	135,756,989	260,548,393	398,744,272
Bicycles and parts.....	7	1,323	4,108,869	3,842,232	7,443,655	10,944,497
Boat building.....	215	1,508	3,545,079	3,248,688	5,094,759	8,463,531

¹ In 1952 gross value of products was replaced by value of factory shipments; see text on pp. 624-625.

11.—Principal Statistics of Individual Manufacturing Industries classified on the Standard Classification Basis 1953—continued

Group and Industry	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
Transportation Equipment— concluded						
Carriages, wagons and sleighs...	42	854	2,120,166	2,859,049	4,066,836	7,017,575
Motor vehicles.....	20	32,973	131,316,134	557,709,086	273,598,093	835,554,549
Motor vehicle parts.....	179	23,335	81,186,799	162,324,012	141,251,977	307,676,670
Railway rolling stock.....	36	35,447	118,026,350	179,892,257	153,677,779	338,321,229
Shipbuilding.....	79	22,571	72,732,056	65,821,268	115,523,663	183,215,310
Totals, Transportation Equip- ment.....	621	156,059	555,411,152	1,110,953,581	961,205,155	2,089,937,633
Non-ferrous Metal Products—						
Aluminum products.....	96	7,738	25,593,164	49,084,098	41,898,562	92,724,065
Brass and copper products.....	153	9,301	31,539,770	108,715,110	59,866,300	170,691,735
Jewellery and silverware.....	207	5,703	14,416,095	27,149,796	23,875,903	51,421,270
Non-ferrous metal smelting and refining.....	18	25,115	94,545,611	508,116,759	310,207,228	870,918,142
White metal alloys.....	56	3,641	11,007,518	30,142,086	19,595,648	50,505,347
Miscellaneous non-ferrous metal products.....	21	560	1,607,899	2,920,266	2,736,830	5,750,435
Totals, Non-ferrous Metal Products.....	551	52,058	178,710,057	726,128,115	458,180,471	1,242,010,994
Electrical Apparatus and Supplies—						
Batteries.....	26	2,091	6,979,527	19,486,735	15,536,192	35,463,607
Radio and television sets and parts.....	103	17,213	51,234,692	112,634,139	86,791,493	200,129,328
Refrigerators, vacuum cleaners and appliances.....	87	9,427	29,496,808	54,597,677	58,758,075	114,593,026
Machinery, heavy electrical.....	55	25,454	88,359,663	87,704,273	154,594,631	244,273,012
Miscellaneous electrical appar- atus and supplies.....	151	22,671	74,576,087	109,321,170	141,809,125	253,731,281
Totals, Electrical Apparatus and Supplies.....	422	76,856	250,646,777	383,743,994	457,489,516	848,190,254
Non-metallic Mineral Products—						
Abrasives, artificial.....	18	2,742	9,900,748	16,869,606	25,333,137	46,253,877
Asbestos products.....	18	1,930	6,223,024	10,363,034	11,110,349	22,030,972
Cement, hydraulic.....	11	2,403	8,954,229	10,472,651	40,428,272	62,227,924
Clay products from domestic clay.....	125	3,881	11,458,074	799,534	24,134,914	29,777,731
Clay products from imported clay.....	37	2,254	6,280,614	3,943,943	10,083,660	14,871,948
Concrete products.....	486	6,722	19,385,183	34,886,105	40,845,917	77,880,895
Glass and glass products.....	118	7,830	24,978,847	28,552,798	40,124,444	72,910,166
Gypsum products.....	11	1,522	4,625,165	10,249,318	10,301,603	21,663,536
Lime.....	42	1,068	3,312,912	1,221,547	10,600,220	15,209,107
Salt.....	12	750	2,274,812	1,866,106	5,579,766	8,405,789
Sand-lime brick.....	5	178	558,490	483,747	1,187,484	1,754,091
Stone products.....	159	2,217	6,719,771	7,816,157	13,956,534	22,695,639
Miscellaneous non-metallic mineral products.....	52	855	2,603,205	6,594,302	6,129,563	13,227,517
Totals, Non-metallic Mineral Products.....	1,094	34,352	107,275,074	134,118,848	239,815,853	408,909,192

¹ In 1952 gross value of products was replaced by value of factory shipments; see text on pp. 624-625.

**11.—Principal Statistics of Individual Manufacturing Industries classified on the
Standard Classification Basis 1953—concluded**

Group and Industry	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
Products of Petroleum and Coal—						
Coke and gas products.....	28	4,955	16,946,845	66,576,949	48,817,597	122,321,045
Petroleum products.....	55	11,858	48,574,772	507,214,040	159,603,271	694,988,605
Miscellaneous products of pe- troleum and coal.....	17	299	1,043,817	2,519,652	3,132,085	5,779,690
Totals, Products of Petroleum and Coal.....	100	17,112	66,565,434	576,310,641	211,552,953	823,089,340
Chemicals and Allied Products—						
Acids, alkalies and salts.....	41	8,278	31,174,479	43,083,175	70,952,111	127,299,437
Fertilizers.....	40	3,199	11,511,643	39,310,484	43,095,265	84,354,369
Medicinal and pharmaceutical preparations.....	217	7,492	21,758,651	30,716,172	62,018,558	93,557,168
Paints, varnishes and lacquers..	122	5,887	19,237,809	55,144,047	57,347,366	113,247,805
Primary plastics.....	19	2,160	7,916,418	24,497,716	19,139,712	44,541,882
Soaps, washing compounds and cleaning preparations.....	141	3,824	13,126,296	38,323,494	49,731,314	89,248,823
Toilet preparations.....	94	1,955	4,648,547	11,309,157	19,007,367	30,438,474
Vegetable oils.....	13	675	2,345,831	43,992,061	6,359,159	50,843,440
Other Chemical Industries—						
Adhesives.....	29	707	2,144,997	6,490,797	5,188,200	12,082,115
Coal tar distillation.....	11	541	1,861,353	7,551,105	5,328,672	13,634,899
Gases, compressed.....	45	1,226	4,046,844	2,240,446	12,981,251	15,712,330
Inks.....	33	891	2,891,130	5,198,173	7,517,350	12,832,046
Polishes and dressings.....	49	845	2,401,858	7,704,870	9,430,077	17,230,068
Chemical products, n.e.s.....	251	12,527	39,524,954	88,124,634	80,180,174	176,489,989
Totals, Chemicals and Allied Products.....	1,105	50,207	164,590,810	403,686,331	448,276,576	881,503,845
Miscellaneous Industries—						
Brooms, brushes and mops....	95	2,195	4,949,726	8,112,766	8,904,832	17,160,595
Clocks, watches and watch cases	34	1,190	3,498,817	7,103,175	5,528,274	12,669,629
Fountain pens and pencils.....	17	1,169	2,903,588	4,115,356	6,514,323	10,696,588
Musical instruments.....	24	1,372	3,458,877	3,283,754	6,307,367	9,713,622
Plastics products.....	152	4,067	10,138,910	18,725,905	19,855,821	39,010,545
Scientific and professional equip- ment.....	128	6,642	22,107,369	22,010,622	38,588,436	61,028,652
Sporting goods.....	82	1,768	4,185,559	4,729,505	7,779,456	12,630,427
Toys and games.....	55	1,551	3,475,270	5,948,744	5,291,829	11,369,413
Typewriter supplies.....	10	445	1,227,504	2,401,040	2,588,004	5,021,894
Other Miscellaneous Industries—						
Artificial flowers and feathers.	45	516	926,600	1,076,417	1,665,843	2,760,552
Buttons, buckles and fasteners.	45	1,741	4,460,154	4,598,548	6,751,442	11,454,376
Candles.....	14	231	508,364	941,195	1,489,068	2,464,656
Hair goods.....	16	118	317,947	1,154,380	558,420	1,721,981
Ice, artificial.....	77	931	2,614,595	160,407	4,986,284	5,803,778
Lamps, electric and lamp shades.....	57	1,288	2,662,792	4,651,902	4,606,284	9,346,754
Models and patterns, excluding paper.....	67	375	1,342,308	328,367	1,741,707	2,102,494
Pipes, lighters and smokers' supplies.....	14	283	688,062	997,648	1,387,312	2,411,334
Signs, electric, neon and other..	193	2,632	7,703,654	6,247,579	15,204,952	21,789,501
Stamps and stencils, rubber and metal.....	60	920	2,509,121	1,277,442	3,592,817	4,934,533
Statuary art goods, regalia and novelties.....	122	989	2,090,786	1,842,169	3,309,371	5,211,172
Umbrellas.....	8	180	324,963	622,410	578,536	1,203,938
Other miscellaneous industries.	35	1,620	3,859,529	3,138,570	7,529,650	10,776,457
Totals, Miscellaneous Indus- tries.....	1,350	32,223	85,954,495	103,467,901	154,763,033	261,282,891
Grand Totals, All Industries.	38,107	1,327,451	3,957,018,348	9,380,558,682	7,993,069,351	17,785,416,854

¹ In 1952 gross value of products was replaced by value of factory shipments; see text on pp. 624-625.

12.—Quantity and Value of the Principal Commodities Produced by the Manufacturing Industries 1953

NOTE.—All values in this table are for factory shipments excepting for those items marked with an asterisk which are gross value of products.

Group and Commodity	Unit of Measure	Quantity	Value
			\$
Food—			
Biscuits, all kinds.....	lb.	239,440,587	70,424,959
Bread.....	"	1,557,542,000	171,795,150
Butter, factory made.....	"	304,547,995	179,760,875
Cheese, factory made.....	"	141,226,111	45,129,324
Confectionery, all kinds.....	"	—	72,132,196
Cream, sold in dairy factories.....	lb. b. fat	24,795,757	27,960,246
Feed, chopped, grain.....	ton	492,411	27,402,878
Feeds, stock and poultry prepared.....	"	1,997,857	165,852,133
Fish, canned and otherwise prepared*	"	—	60,270,260
Flour, wheat.....	bbl.	23,314,790	204,945,417
Fruits and vegetables, canned.....	lb.	559,016,122	69,447,527
Fruits and vegetables, frozen*	"	46,556,914	9,389,010
Ice cream, factory made.....	gal.	28,939,100	48,069,967
Jams, jellies and marmalades*	"	—	18,858,823
Lard.....	lb.	101,995,134	14,439,593
Meats, canned, including poultry, pastes, etc.....	"	74,744,209	40,569,221
Meats, cooked.....	"	51,882,190	32,916,793
Meats, cured.....	"	216,930,519	114,357,970
Meats, sold fresh.....	"	1,239,252,242	443,691,210
Meats, sold frozen.....	"	105,954,218	38,860,978
Milk, evaporated and condensed.....	"	290,958,370	35,177,369
Milk, sold in dairy factories.....	gal.	167,315,993	118,945,190
Pickles, relishes and catsup.....	"	—	18,232,742
Pies, cakes and pastry.....	"	—	72,358,539
Powders, edible (custard, jelly, milk, etc.).....	"	—	31,224,359
Sausage, fresh and cured.....	lb.	84,829,516	32,870,598
Shortening.....	"	135,984,639	31,031,467
Sugar, granulated (cane and beet).....	"	1,187,800,474	96,812,324
Tea and coffee, roasted, blended and packed.....	"	124,080,780	113,180,468
Beverages—¹			
Aerated waters*	gal.	110,174,824	94,076,502
Beer, ale, stout and porter (sales).....	"	206,908,214	324,203,939
Spirits, potable, sold (net sales).....	pr. gal.	12,445,166	97,715,878
Wine, sold.....	Imp. gal.	4,355,934	10,952,615
Tobacco and Tobacco Products—¹			
Cigarettes.....	'000	21,156,092	289,424,673
Cigars.....	"	236,248	18,233,475
Tobacco, chewing, smoking and snuff*	lb.	28,941,116	71,130,819
Tobacco, raw leaf, processed*	"	120,793,167	66,757,162
Textile Products (except Clothing)—			
Bags, cotton and jute.....	No.	114,186,046	23,006,847
Blankets.....	"	—	13,044,901
Carpets, mats and rugs.....	"	—	13,719,048
Cotton fabrics.....	"	—	115,895,475
Synthetic fabrics, all types.....	yd.	96,666,826	69,029,100
Tire fabrics*.....	lb.	29,235,247	23,059,763
Twine and cordage.....	"	—	15,718,570
Woollen cloth, woven and other*	sq. yd.	29,634,805	49,186,166
Yarns, cotton, rayon, wool, etc. (for sale)*.....	"	—	128,727,905
Clothing—			
Coats and overcoats, cloth, men's and youths'.....	No.	757,393	22,585,503
Coats, wool, women's and misses'.....	"	1,621,954	39,748,086
Coats, fur and fur-lined (factory made).....	"	229,073	51,671,897
Coats, short (including windbreakers, mackinaws, parkas, leather coats, etc.).....	doz.	359,180	25,172,763
Dresses, women's and misses'.....	No.	12,613,064	74,888,470

¹ Includes excise taxes on prime cost of "spirits" and "tobacco products".

12.—Quantity and Value of the Principal Commodities Produced by the Manufacturing Industries 1953—continued

Group and Commodity	Unit of Measure	Quantity	Value
			\$
Clothing—concluded			
Footwear, leather.....	pr.	33,863,798	122,632,778
Footwear, rubber*.....	"	13,830,248	35,257,979
Gloves and mittens, all kinds.....	doz. pr.	1,842,005	15,214,227
Hats and caps, men's.....	doz.	695,123	11,695,760
Hats, women's and children's.....	"	480,725	14,455,342
Hosiery, all kinds.....	doz. pr.	9,855,094	64,394,825
Shirts, fine, work and sport.....	doz.	2,482,854	56,460,148
Sport suits, slacks and other sport clothing, <i>n.e.s.</i>	No.	1,417,235	53,912,459
Suits, men's and youths', fine woollen.....	doz.	4,720,479	35,608,749
Underwear.....			
Wood Products—			
Boxes, wooden.....	...	—	13,385,066
Lumber, planed.....	M ft. b.m.	3,427,447	263,147,957
Lumber, sawn.....	"	5,135,039	328,773,276
Pulp, wood, made for sale.....	short ton	2,329,184	291,630,679
Sash, doors and other mill work.....	...	—	66,607,707
Paper Products—			
Bags, paper.....	...	—	49,104,005
Boxes, paper.....	...	—	143,505,989
Paper boards, all types.....	ton	948,955	114,978,277
Paper, book and writing.....	"	246,513	61,451,545
Paper, newsprint.....	"	5,755,471	633,408,019
Printing, Publishing and Allied Industries—			
Books and catalogues, printed and bound.....	...	—	31,968,208
Other advertising matter, printed.....	...	—	42,320,574
Periodicals printed by publishers—			
Subscriptions and sales.....	...	—	56,959,617
Gross revenue from advertising.....	...	—	150,619,059
Periodicals printed for publishers.....	...	—	22,610,286
Sheet forms, commercial, legal, etc., printed.....	...	—	41,192,045
Iron and Steel Products—			
Bars, iron and steel, hot rolled, sold.....	ton	592,078	75,013,792
Boilers, heating and power.....	...	—	18,472,701
Castings, grey iron, made for sale.....	...	—	44,244,487
Farm implements and parts.....	...	—	159,851,000
Forgings, steel and other.....	...	—	36,403,545
Hardware, builders' and other.....	...	—	38,614,000
Machinery, industrial, household, office and store and parts.....	...	—	532,889,458
Pig iron, sold.....	ton	626,624	31,510,562
Pipes, tubing and fittings, iron and steel.....	...	—	89,035,000
Rolled iron and steel forms, semifinished, sold.....	net ton	279,986	25,228,604
Sheets, bars and other cold-rolled products, sold.....	"	593,393	97,342,750
Steel ingots and castings, sold.....	"	133,389	44,745,077
Steel shapes erected, buildings, bridges, etc.*.....	"	297,598	95,619,662
Steel shapes, structural, made in primary mills.....	"	262,815	27,589,690
Stoves, coal, wood, electric and gas.....	...	—	47,914,313
Tools and implements, hand, all kinds.....	...	—	35,397,697
Wire, wire rope and cable, steel.....	...	—	37,608,335
Transportation Equipment—			
Aircraft, including parts and repairs*.....	...	—	257,188,962
Automobile parts and accessories, including tires, etc.....	...	—	669,025,397
Automobiles, commercial.....	No.	119,937	192,254,119
Automobiles, passenger.....	"	360,385	539,524,001
Buses.....	"	637	6,828,830
Cars, freight, complete.....	"	8,258	71,057,778
Locomotives, diesel-electric, new.....	"	260	42,259,233
Ships and ship repairs*.....	...	—	196,214,180

12.—Quantity and Value of the Principal Commodities Produced by the Manufacturing Industries 1953—concluded

Group and Commodity	Unit of Measure	Quantity	Value
			\$
Non-ferrous Metal Products—			
Jewellery.....	...	—	20,625,744
Kitchenware, aluminum.....	...	—	8,187,294
Silver-plated ware.....	...	—	13,120,850
Smelter and refinery products*.....	...	—	870,918,142
Electrical Apparatus and Supplies—			
Batteries, electric, and parts.....	...	—	29,659,966
Radio receiving sets complete.....	No.	737,457	28,021,087
Refrigerators, household, mechanical.....	"	275,415	50,943,211
Television sets.....	"	391,974	81,304,912
Wires and cables, electric.....	...	—	123,440,783
Non-metallic Mineral Products—			
Abrasives, artificial.....	ton	298,530	32,937,917
Coke, gas-house*.....	"	4,252,933	64,171,749
Concrete, ready-mixed.....	cu. yd.	2,169,348	27,570,788
Gas, manufactured and natural, sold*.....	'000 cu. ft.	96,553,160	62,388,016
Glass, pressed and blown (bottles, sealers, ovenware, etc.).....	...	—	44,348,405
Chemicals and Allied Products—			
Calcium and sodium compounds.....	...	—	46,846,000
Enamels, lacquers and varnishes.....	...	—	47,035,915
Explosives.....	...	—	25,986,786
Gases, compressed and liquefied.....	...	—	31,130,000
Medicinal and pharmaceutical preparations.....	...	—	87,098,000
Paints, mixed, ready for use.....	Imp. gal.	11,252,375	42,276,027
Synthetic resins.....	...	—	26,251,000
Soaps.....	lb.	181,688,000	36,629,000
Toilet preparations.....	...	—	39,478,079
Miscellaneous—			
Bags, hand, and hand luggage.....	...	—	13,887,341
Brooms and household brushes.....	doz.	951,338	5,020,253
Cans, metal, for food.....	...	—	52,876,812
Furniture, wood and metal.....	...	—	179,512,216
Gasoline*.....	Imp. gal.	2,260,426,303	355,807,726
Leather, shoe.....	...	—	35,625,193
Mattresses.....	...	—	18,946,902
Mops, floor.....	...	—	2,723,077
Oil, fuel.....	Imp. gal.	2,095,877,081	191,550,501
Pianos, organs, and parts.....	...	—	5,199,160
Scientific and professional equipment.....	...	—	61,028,652
Sporting goods.....	...	—	13,974,686
Springs, bed and other furniture.....	...	—	9,803,985
Toys and games.....	...	—	11,369,413

Subsection 2.—Manufactures Classified by Origin of Materials

The distinction made between farm materials of Canadian and foreign origin is based on whether the materials are indigenous to Canada rather than on their actual source. Thus, the industries included in the foreign origin classes are those depending upon materials that cannot be grown in Canada, such as tea, coffee, spices, cane sugar, rice, rubber, cotton, etc. Industries included in the Canadian origin classes may however be using large quantities of imported materials.

The mineral origin group includes, in addition to non-ferrous metals so largely produced in Canada, the manufactures of iron and steel, of petroleum, and of other mineral substances, the raw materials for which are very largely imported. Products of mineral origin, with the exception of fuels, are nearly all durable goods.

13.—Principal Statistics of Manufacturing Industries classified according to Origin of Materials Used, by Main Group 1953

Origin of Material Used	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
Farm origin.....	9,601	314,606	797,589,340	3,043,720,116	1,758,981,140	4,864,375,757
Mineral origin.....	6,618	577,696	1,982,152,272	4,187,562,344	3,905,507,838	8,326,705,749
Forest origin.....	17,045	281,080	824,747,195	1,536,226,536	1,683,667,683	3,322,194,229
Marine origin.....	607	13,623	23,169,629	85,773,130	49,435,356	137,635,369
Wildlife origin.....	616	7,159	19,037,321	40,665,523	28,927,108	69,911,730
Mixed origin.....	3,620	133,287	310,322,591	486,611,033	566,550,226	1,064,594,020
Grand Totals.....	38,107	1,327,451	3,957,018,348	9,380,558,682	7,993,069,351	17,785,416,854
Farm Origin Group—						
From field crops.....	6,085	177,844	465,204,850	1,634,851,980	1,180,872,178	2,857,265,898
From animal husbandry.....	3,516	136,762	332,384,490	1,408,868,136	578,108,962	2,007,109,859
Totals, Farm Origin.....	9,601	314,606	797,589,340	3,043,720,116	1,758,981,140	4,864,375,757
Canadian origin.....	8,695	249,846	621,263,527	2,626,261,151	1,368,737,022	4,042,905,188
Foreign origin.....	906	64,760	176,325,813	417,458,965	390,244,118	821,470,569

¹ In 1952 gross value of products was replaced by value of factory shipments; see text pp. 624-625.

Subsection 3.—Manufactures Classified by Type of Ownership

The figures showing the classification of the type of ownership under which Canadian manufacturers operate are available from 1946 although the first survey did not include the fish-curing and packing industry. Its inclusion in subsequent years has not materially altered the percentage distribution of individual ownership, incorporated companies, etc.

As is to be expected, the smaller establishments, regardless of the type of products manufactured, are carried on under individual ownership. In that category industries conducted on a small scale contain a large number of establishments, the percentage decreasing as the scale of operations increases, as the following figures for 1953 show:—

Group	Average Number of Employees per Establishment	Percentage of Individual Ownership Establishments to the Total
Wood products.....	10.8	62.2
Printing, publishing and allied industries.....	16.0	44.8
Food and beverages.....	21.7	47.4
Miscellaneous manufacturing industries.....	23.0	35.5
Non-metallic mineral products.....	31.4	34.4
Clothing.....	34.3	27.6
Chemicals and allied products.....	45.4	16.0
Leather products.....	47.6	27.5
Iron and steel products.....	69.8	24.8
Textiles.....	76.3	29.4
Knitting mills.....	83.0	15.0
Non-ferrous metal products.....	94.5	26.9
Paper products.....	152.1	8.8
Products of petroleum and coal.....	171.1	3.0
Tobacco and tobacco products.....	172.6	38.2
Electrical apparatus and supplies.....	182.1	9.9
Transportation equipment.....	251.3	29.5
Rubber products.....	313.9	8.3
ALL GROUPS.....	34.8	44.4

Of the 38,107 establishments operating in 1953, 1,413 establishments in the periodical publishing industry were unclassifiable, leaving 36,694 establishments in the four categories of ownership. Individual ownership numbered 16,281 establishments, partnerships 5,421, incorporated companies 14,028 and co-operatives 964. The percentage distribution of the four categories of ownership is given in Table 14 for 1946-53.

14.—Percentage Distribution of Establishments in Manufacturing Industries classified by Type of Ownership, by Province and Industrial Group 1953 with Totals for 1946-53

Year, Province and Industrial Group	Individual Ownership	Partner- ships	Incor- porated Companies	Co-opera- tives	Total
	p. c.	p. c.	p. c.	p. c.	p. c.
1946 (estimated).....	47.3	16.0	33.4	3.3	100.0
1947.....	46.4	16.1	34.3	3.2	100.0
1948.....	46.2	16.4	34.4	3.0	100.0
1949.....	46.0	15.8	35.3	2.9	100.0
1950.....	45.6	15.0	36.3	3.1	100.0
1951.....	44.6	15.5	36.9	3.0	100.0
1952.....	44.9	15.4	36.9	2.8	100.0
1953					
PROVINCE					
Newfoundland.....	50.4	35.1	14.4	0.1	100.0
Prince Edward Island.....	49.3	17.8	25.8	7.1	100.0
Nova Scotia.....	55.0	14.9	28.5	1.6	100.0
New Brunswick.....	55.9	11.2	30.2	2.7	100.0
Quebec.....	48.7	11.3	36.1	3.9	100.0
Ontario.....	38.2	14.9	45.0	1.9	100.0
Manitoba.....	38.6	16.6	43.1	1.7	100.0
Saskatchewan.....	58.6	15.8	21.0	4.6	100.0
Alberta.....	50.9	17.3	28.8	3.0	100.0
British Columbia.....	37.8	18.4	42.6	1.2	100.0
Yukon and Northwest Territories.....	48.3	17.2	34.5	—	100.0
Canada, 1953.....	44.4	14.8	38.2	2.6	100.0
INDUSTRIAL GROUP					
Food and beverages.....	47.4	11.0	30.4	11.2	100.0
Tobacco and tobacco products.....	38.2	3.6	52.7	5.5	100.0
Rubber products.....	8.3	7.0	84.7	—	100.0
Leather products.....	27.5	13.4	59.1	—	100.0
Textiles.....	29.4	11.1	59.3	0.2	100.0
Knitting mills.....	15.0	12.6	72.4	—	100.0
Clothing.....	27.6	19.7	52.7	—	100.0
Wood products.....	62.2	19.0	18.6	0.2	100.0
Paper products.....	8.8	3.1	88.1	—	100.0
Printing, publishing and allied industries ¹	44.8	15.7	39.0	0.5	100.0
Iron and steel products.....	24.8	13.2	61.9	0.1	100.0
Transportation equipment.....	29.5	11.4	59.1	—	100.0
Non-ferrous metal products.....	26.9	12.5	60.6	—	100.0
Electrical apparatus and supplies.....	9.9	5.7	84.4	—	100.0
Non-metallic mineral products.....	34.4	15.0	50.5	0.1	100.0
Products of petroleum and coal.....	3.0	2.0	93.0	2.0	100.0
Chemicals and allied products.....	16.0	6.0	77.6	0.4	100.0
Miscellaneous manufacturing industries.....	35.5	12.9	51.4	0.2	100.0

¹ Four main categories of ownership only; the non-classifiable group is not included.

The establishments operating under individual ownership are not as important from the point of view of employment provided as their large numbers would indicate. According to Tables 15 and 16, these establishments which comprise 44 p.c. of the total had only 6 p.c. of the total employees. Partnerships accounted for 15 p.c. of the number of establishments and 3 p.c. of the total employees. Incorporated companies with 38 p.c. of the number of establishments had 90 p.c. of the employees. Co-operatives with 3 p.c. of the number had only 1 p.c. of the employees.

On the basis of employment provided, incorporated companies are by a very wide margin the most important factor in the employment field. In the rubber products, paper products, transportation equipment, electrical apparatus and supplies groups 99 p.c. of the employees were reported by such companies. Companies in the petroleum and coal products and chemicals and allied chemical products groups had 98 p.c., non-ferrous metal products had 97 p.c., tobacco and tobacco products, textiles and iron and steel products groups had 96 p.c., knitting mills 93 p.c.; non-metallic mineral products 91 p.c., leather products and miscellaneous manufacturing industries 88 p.c., printing, publishing and allied industries 86 p.c., and food and beverages and clothing groups 81 p.c. Companies in the wood products group, with 70 p.c., reported the lowest proportion of the total employment.

15.—Percentage Distribution of Employment in the Manufacturing Industries classified by Type of Ownership, by Province and Industrial Group 1953 with Totals for 1946-53

Year, Province and Industrial Group	Individual Ownership	Partner- ships	Incor- porated Companies	Co-opera- tives	Total
	p.c.	p.c.	p.c.	p.c.	p.c.
1946 (estimated).....	7.9	4.7	86.5	0.9	100.0
1947.....	7.5	4.5	87.0	1.0	100.0
1948.....	7.1	4.4	87.5	1.0	100.0
1949.....	6.8	4.2	88.0	1.0	100.0
1950.....	6.3	3.9	88.8	1.0	100.0
1951.....	6.1	3.7	89.3	0.9	100.0
1952.....	5.9	3.6	89.6	0.9	100.0
1953					
PROVINCE					
Newfoundland.....	9.0	8.1	82.9	—	100.0
Prince Edward Island.....	20.8	9.8	64.0	5.4	100.0
Nova Scotia.....	10.4	3.8	84.9	0.9	100.0
New Brunswick.....	10.9	3.5	84.0	1.6	100.0
Quebec.....	7.0	3.5	88.8	0.7	100.0
Ontario.....	3.7	2.7	93.2	0.4	100.0
Manitoba.....	5.3	3.9	89.7	1.1	100.0
Saskatchewan.....	13.7	6.0	69.1	11.2	100.0
Alberta.....	10.9	6.3	80.5	2.3	100.0
British Columbia.....	6.2	4.6	87.3	1.9	100.0
Yukon and Northwest Territories.....	19.9	14.2	65.9	—	100.0
Canada, 1953.....	5.7	3.3	90.2	0.8	100.0
INDUSTRIAL GROUP					
Food and beverages.....	10.1	3.8	81.4	4.7	100.0
Tobacco and tobacco products.....	1.0	0.4	96.1	2.5	100.0
Rubber products.....	0.2	0.5	99.3	—	100.0
Leather products.....	6.5	6.0	87.5	—	100.0
Textiles.....	2.6	1.7	95.6	0.1	100.0
Knitting mills.....	2.1	4.7	93.2	—	100.0
Clothing.....	9.3	10.0	80.7	—	100.0
Wood products.....	20.1	9.7	70.0	0.2	100.0
Paper products.....	0.4	0.2	99.4	—	100.0
Printing, publishing and allied industries ¹	8.6	4.6	85.5	1.3	100.0
Iron and steel products.....	2.3	1.6	96.0	0.1	100.0
Transportation equipment.....	0.4	0.4	99.2	—	100.0
Non-ferrous metal products.....	1.8	1.1	97.1	—	100.0
Electrical apparatus and supplies.....	0.3	0.5	99.2	—	100.0
Non-metallic mineral products.....	5.2	3.4	91.3	0.1	100.0
Products of petroleum and coal.....	—	—	98.4	1.6	100.0
Chemicals and allied products.....	1.1	0.6	98.0	0.3	100.0
Miscellaneous manufacturing industries.....	7.6	4.4	87.8	0.2	100.0

¹ Four main categories of ownership only; the non-classifiable group is not included.

16.—Percentage Distribution of Employment in the Forty Leading Industries by Type of Ownership 1953

	Industry	Individual Ownership	Partner- ships	Incor- porated Companies	Co-opera- tives	Total
		p.c.	p.c.	p.c.	p.c.	p.c.
1	Pulp and paper.....	—	—	100-0	—	100-0
2	Non-ferrous metal smelting and refining.....	—	—	100-0	—	100-0
3	Motor vehicles.....	—	—	100-0	—	100-0
4	Slaughtering and meat packing.....	1-5	1-3	95-6	1-6	100-0
5	Petroleum products.....	—	—	97-7	2-3	100-0
6	Sawmills.....	30-5	13-2	55-9	0-4	100-0
7	Primary iron and steel.....	—	—	100-0	—	100-0
8	Aircraft and parts.....	0-1	—	99-9	—	100-0
9	Butter and cheese.....	10-4	4-7	62-4	22-5	100-0
10	Railway rolling stock.....	—	—	100-0	—	100-0
11	Motor vehicle parts.....	0-8	1-0	98-2	—	100-0
12	Rubber goods, including footwear.....	0-1	0-5	99-4	—	100-0
13	Miscellaneous food preparations.....	4-6	1-8	93-6	—	100-0
14	Bread and other bakery products.....	27-2	7-6	64-7	0-5	100-0
15	Clothing, men's factory.....	4-3	8-4	87-3	—	100-0
16	Flour mills.....	1-3	2-5	94-3	1-9	100-0
17	Miscellaneous electrical apparatus and supplies.....	0-2	0-4	99-4	—	100-0
18	Machinery, heavy electrical.....	—	—	100-0	—	100-0
19	Printing and publishing.....	5-2	2-2	91-5	1-1	100-0
20	Furniture.....	11-7	8-1	80-2	—	100-0
21	Machinery, industrial.....	1-9	0-7	97-1	0-3	100-0
22	Sheet metal products.....	2-0	2-2	95-8	—	100-0
23	Clothing, women's factory.....	7-3	7-8	84-9	—	100-0
24	Cotton yarn and cloth.....	0-1	—	99-9	—	100-0
25	Fruit and vegetable preparations.....	5-0	2-9	89-0	3-1	100-0
26	Sash, door and planing mills.....	16-6	8-4	74-8	0-2	100-0
27	Breweries.....	—	0-5	99-5	—	100-0
28	Radio and television sets and parts.....	0-4	1-2	98-4	—	100-0
29	Boxes and bags, paper.....	1-3	0-6	98-1	—	100-0
30	Shipbuilding.....	0-3	0-2	99-5	—	100-0
31	Miscellaneous chemical products.....	1-3	0-6	98-1	—	100-0
32	Printing and bookbinding.....	14-3	7-6	76-1	2-0	100-0
33	Agricultural implements.....	0-6	0-6	98-0	0-8	100-0
34	Brass and copper products.....	1-9	1-5	96-6	—	100-0
35	Feeds, stock and poultry, prepared.....	14-5	6-6	60-6	18-3	100-0
36	Castings, iron.....	3-5	2-4	94-1	—	100-0
37	Bridge building and structural steel.....	0-1	0-1	99-8	—	100-0
38	Tobacco, cigars and cigarettes.....	1-2	0-5	98-3	—	100-0
39	Miscellaneous paper goods.....	1-9	0-8	97-3	—	100-0
40	Synthetic textiles and silk.....	0-2	—	99-8	—	100-0

Subsection 4.—Leading Manufacturing Industries

The rank of the ten leading industries in 1953, from the standpoint of gross value of production, is compared with their respective ranks in significant years since 1922 in the following statement:—

Industry	Rank in—							
	1922	1929	1933	1939	1944	1949	1952	1953
Pulp and paper.....	2	1	1	2	5	1	1	1
Non-ferrous metal smelting and refining....	1	9	2	1	2	3	3	2
Motor vehicles.....	6	4	11	5	7	4	4	3
Slaughtering and meat packing.....	3	2	3	3	1	2	2	4
Petroleum products.....	9	10	6	6	14	5	5	5
Sawmills.....	4	5	14	8	11	6	6	6
Primary iron and steel.....	20	16	31	11	13	8	7	7
Aircraft and parts.....	1	1	1	1	4	1	16	8
Butter and cheese.....	5	6	5	4	10	7	8	9
Railway rolling stock.....	24	7	23	16	16	9	9	10

¹ Did not rank among the forty leading industries in that year.

A prominent feature of Canadian manufacturing development during the past 25 years has been the rapid growth of non-ferrous metal smelting. This industry, based upon the rich base-metal resources of the country, has taken its place among the leading manufactures along with the industries based upon forest, agricultural and livestock resources.

During World War II the industries engaged in producing the equipment needed by the Armed Forces, such as shipbuilding, aircraft, automobiles, miscellaneous chemical products, and primary iron and steel, advanced to higher positions. When the War ended

the industries engaged in the production of consumer goods, by reason of the expanded demand for their products, bettered their positions.

Some major changes took place in the ranking of the ten leading industries in 1953. The impetus given to Canadian manufacturing production by the Korean war is reflected in the advance of the aircraft industry to the eighth position. This industry was in fourth place in 1944 and sixteenth place in 1952. The shipbuilding industry also bettered its position as a result of the current defence program, placing thirty-fourth in 1952 and thirteenth in 1953. Pulp and paper has retained its premier position since 1946. Non-ferrous metal smelting and refining and motor vehicles bettered their position in 1953, but slaughtering and meat packing, butter and cheese, and railway rolling stock declined in relative importance. Petroleum products, sawmills and primary iron and steel were in the fifth, six and seventh position, unchanged as compared with 1952.

17.—Principal Statistics of the Forty Leading Manufacturing Industries ranked according to Value of Factory Shipments 1953

Industry	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
1 Pulp and paper.....	127	58,194	235,741,660	499,350,994	599,934,934	1,179,665,443
2 Non-ferrous metal smelting and refining.....	18	25,115	94,545,611	508,116,759	310,207,228	870,918,142
3 Motor vehicles.....	20	32,973	131,316,134	557,709,086	273,598,063	835,554,549
4 Slaughtering and meat packing..	152	22,887	74,431,943	672,763,955	152,022,908	829,468,022
5 Petroleum products.....	55	11,858	48,574,772	507,214,040	159,603,271	694,988,605
6 Sawmills.....	8,194	60,933	142,131,003	304,584,643	269,066,300	580,693,704
7 Primary iron and steel.....	62	34,956	129,709,556	212,374,287	216,957,645	458,904,255
8 Aircraft and parts.....	43	38,048	142,375,699	135,756,989	260,548,393	398,744,272
9 Butter and cheese.....	1,527	20,697	52,507,579	293,915,639	95,787,291	396,955,715
10 Railway rolling stock.....	36	35,447	118,026,350	179,892,257	153,677,779	338,321,229
11 Motor vehicle parts.....	179	23,335	81,186,799	162,324,012	141,251,977	307,676,670
12 Rubber goods, including foot- wear.....	72	22,600	70,994,643	114,336,694	172,674,055	290,735,459
13 Miscellaneous food preparations.....	322	9,757	26,028,134	200,378,736	80,864,996	284,366,431
14 Bread and other bakery pro- ducts.....	2,571	33,540	80,902,687	129,224,657	139,987,817	277,998,092
15 Clothing, men's factory.....	601	35,119	74,709,888	147,283,980	125,833,604	273,946,025
16 Flour mills.....	95	4,962	14,946,310	224,518,387	40,262,095	266,430,548
17 Miscellaneous electrical appar- atus and supplies.....	151	22,671	74,576,087	109,321,170	141,809,125	253,731,281
18 Machinery, heavy electrical.....	55	25,454	88,359,663	87,704,273	154,594,631	244,272,019
19 Printing and publishing.....	795	28,499	93,821,611	66,814,175	174,943,176	243,892,272
20 Furniture.....	1,640	29,768	75,836,177	107,747,252	121,482,928	231,557,354
21 Machinery, industrial.....	312	22,163	75,295,453	78,394,744	145,229,561	225,962,481
22 Sheet metal products.....	316	18,275	58,831,821	119,186,160	103,826,528	225,423,031
23 Clothing, women's factory.....	830	23,178	61,838,049	116,186,888	103,679,336	220,410,178
24 Cotton yarn and cloth.....	54	28,277	55,036,540	132,917,545	73,326,204	210,220,958
25 Fruit and vegetable preparations	454	15,385	32,838,899	119,911,000	82,491,454	205,119,469
26 Sash, door and planing mills.....	1,775	20,241	48,119,296	120,985,715	77,217,333	200,929,152
27 Breweries.....	61	8,383	31,737,897	51,482,008	146,805,908	200,885,656
28 Radio and television sets and parts.....	103	17,213	51,234,692	112,634,139	86,791,493	200,129,328
29 Boxes and bags, paper.....	192	14,042	38,752,738	115,898,563	81,755,394	198,540,167
30 Shipbuilding.....	79	22,571	72,732,056	65,821,263	115,523,663	183,215,310
31 Miscellaneous chemical products	251	12,527	39,524,954	88,124,634	80,180,174	176,489,989
32 Printing and bookbinding.....	1,696	23,466	68,382,615	62,093,666	112,606,355	176,176,468
33 Agricultural implements.....	80	14,161	50,302,007	90,344,539	79,100,472	171,269,525
34 Brass and copper products.....	153	9,301	31,539,770	108,715,110	59,866,300	170,691,735
35 Feeds, stock and poultry, pre- pared.....	654	5,760	13,861,889	137,828,019	30,291,490	170,433,683
36 Castings, iron.....	201	15,346	52,985,576	69,150,209	85,034,389	157,465,126
37 Bridge building and structural steel.....	47	11,243	42,534,324	64,196,383	90,785,457	156,327,770
38 Tobacco, cigars and cigarettes.....	42	7,711	23,376,081	79,261,880	67,702,851	147,388,329
39 Miscellaneous paper goods.....	210	9,723	27,809,907	82,195,084	63,773,278	147,270,934
40 Synthetic textiles and silk.....	47	15,723	43,939,105	63,938,444	78,585,277	146,418,307
Totals, Leading Industries.....	24,272	891,882	2,771,395,985	7,100,300,988	5,549,681,172	12,949,588,683
Totals, All Industries.....	38,107	1,327,451	3,957,018,348	9,350,558,682	7,993,069,351	17,785,416,854
Percentage of leading industries to all industries.....	63.7	67.2	70.2	75.7	69.4	72.8

¹ In 1952 gross value of products was replaced by value of factory shipments; see text on pp. 624-625.

Section 3.—Principal Factors in Manufacturing Production

Subsection 1.—Earnings in Manufacturing Industries*

In 1953 the 38,107 establishments covered employed 274,225 supervisory and office employees and 1,053,226 production workers, a total of 1,327,451 persons. Out of every 1,000 persons employed in manufacturing, 207 were classed as office employees and 793 as production workers; the former earned 26 p.c. and the latter 74 p.c. of the total amount paid out as remuneration for services.

A notable feature during the past few years has been the reduction in the disparity between average annual earnings of office and production workers. In 1939 average annual earnings of production workers were only 56 p.c. of that paid to office workers, in 1943 the percentage rose to 76, declined to 69 in 1947 and rose to 75 in 1953. This tendency towards equalization is attributed, in part, to the controls adopted by the Government during the war years which stabilized earnings of office workers more so than the earnings of production workers. The increase in average earnings of production workers was also influenced by the fact that large numbers were employed in the highly paid iron and steel industries and by the increase in the number of hours worked, some at overtime pay.

18.—Annual Earnings of Employees in Manufacturing Industries, Significant Years 1917-53

NOTE.—The averages of earnings for the years 1933-45 are strictly comparable with those for the years up to 1924 but not with those for the intervening years. The figures for the latest years—as for the earlier—represent the earnings for complete man-years of work, with no allowance for periods of unemployment. The difference amounts to about 3 or 4 p.c. in the total figures and affects chiefly the seasonal industries.

Year	Supervisory and Office Employees				Production Workers			
	Male	Female	Total Earnings	Average Annual Earnings	Male	Female	Total Earnings	Average Annual Earnings
	No.	No.	\$	\$	No.	No.	\$	\$
1917.....	64,918		85,353,667	1,315	541,605		412,448,177	762
1920.....	78,334		141,837,361	1,811	520,559		575,656,515	1,106
1922.....	71,586		129,836,831	1,814	384,670		359,560,399	935
1924.....	54,379	15,641	130,344,822	1,862	322,719	94,871	404,122,853	968
1926.....	58,245	17,092	142,353,900	1,890	374,244	109,580	483,328,342	999
1929.....	67,731	21,110	175,553,710	1,976	454,768	122,922	601,737,507	1,042
1933.....	67,875	18,761	139,317,946	1,608	287,266	94,756	296,929,878	777
1939.....	98,165	26,607	217,839,334	1,746	415,488	117,854	519,971,819	975
1944.....	126,858	65,700	418,065,594	2,171	744,635	285,689	1,611,555,776	1,564
1945.....	128,601	62,106	417,857,619	2,191	680,620	248,045	1,427,915,830	1,538
1946.....	127,002	54,004	410,875,776	2,270	662,699	214,451	1,329,811,478	1,516
1947.....	135,248	55,852	474,693,800	2,484	721,407	219,243	1,611,232,166	1,713
1948.....	141,038	57,192	532,594,959	2,687	738,721	218,770	1,876,773,231	1,960
1949.....	157,516	64,035	628,427,937	2,836	732,457	217,199	1,963,462,720	2,067
1950.....	164,475	66,578	692,633,349	2,998	736,477	215,767	2,078,634,086	2,183
1951.....	176,943	70,844	816,714,604	3,296	792,394	218,194	2,459,566,313	2,434
1952.....	188,235	74,792	923,905,251	3,513	810,060	215,295	2,713,714,909	2,647
1953.....	195,843	78,382	1,016,679,409	3,707	828,363	224,863	2,940,338,939	2,792

Average earnings of office workers in 1953 amounted to \$3,707 which was \$1,961 or 112 p.c. higher than in 1939. Office employees in Ontario with \$3,892 were the highest paid. Those in Quebec were second with \$3,670, British Columbia third with \$3,609, and Manitoba fourth with \$3,419. The fact that head offices of many large corporations are located in Montreal, Toronto, Winnipeg and Vancouver tends to raise the average salary in the provinces in which these cities are located.

* Statistics of earnings and hours of work of wage earners and salaried employees in manufacturing will be found in Chapter XVIII on Labour.

Average earnings of production workers in 1953 amounted to \$2,792 which was \$1,817 or 186 p.c. higher than in 1939. Production workers of British Columbia received the highest average earnings of \$3,108. Ontario with \$2,980 was in second place, followed by Saskatchewan with \$2,785, Alberta \$2,718, Manitoba \$2,619, Quebec \$2,558, Newfoundland \$2,549, etc. The high figure shown for Yukon and Northwest Territories in regard to the average earnings of production workers is owing to the unusual conditions under which industry is carried on in these regions and is not representative. Statistics of the distribution of employees by provinces and groups as well as average annual earnings are given in Table 19.

Ontario has a larger proportion of females among its office employees than the other provinces. The same situation prevails in Quebec with regard to production workers, because of the importance of the textile industries in providing employment to females. Of all female production workers engaged in the manufacturing industries of Canada in 1953, 43 p.c. were found in the textile and clothing groups.

19.—Annual Earnings of Employees in Manufacturing Industries by Province and Industrial Group 1953

Province and Industrial Group	Supervisory and Office Employees				Production Workers			
	Employees		Total Earnings	Average Earnings	Employees		Total Earnings	Average Earnings
	Male	Female			Male	Female		
	No.	No.	\$	\$	No.	No.	\$	\$
PROVINCE								
Newfoundland.....	2,037	354	5,744,865	2,403	7,350	834	20,860,043	2,549
Prince Edward Island.....	347	94	885,775	2,009	980	388	2,210,070	1,616
Nova Scotia.....	3,840	1,081	13,654,549	2,775	23,598	3,521	62,736,206	2,313
New Brunswick.....	2,746	928	11,373,306	3,096	17,472	3,325	48,379,739	2,326
Quebec.....	62,263	24,080	316,850,671	3,670	260,169	95,043	908,722,643	2,558
Ontario.....	96,231	42,854	541,339,538	3,892	395,157	100,312	1,476,642,680	2,980
Manitoba.....	6,004	2,213	28,095,419	3,419	27,449	8,074	93,030,860	2,619
Saskatchewan.....	2,352	814	8,893,485	2,809	7,442	996	23,502,033	2,785
Alberta.....	5,603	1,816	22,861,122	3,081	22,177	3,486	69,744,031	2,718
British Columbia.....	14,375	4,138	66,817,112	3,609	66,463	8,868	234,104,206	3,108
Yukon and Northwest Territories.....	45	10	163,567	2,974	106	16	406,428	3,331
Canada.....	195,843	78,382	1,016,679,409	3,707	823,363	224,863	2,940,338,939	2,792
INDUSTRIAL GROUP								
Food and beverages.....	24,731	10,245	116,307,583	3,325	105,392	36,281	338,972,969	2,393
Tobacco and tobacco products.....	823	461	5,586,881	4,351	3,132	5,078	2,178,762	2,580
Rubber products.....	4,009	1,555	20,205,742	3,632	12,945	4,091	50,788,901	2,981
Leather products.....	2,964	1,284	15,388,460	3,623	16,233	12,587	55,577,035	1,928
Textiles.....	7,651	3,877	44,122,495	3,827	38,850	22,812	140,482,121	2,278
Knitting mills.....	1,587	1,308	10,597,008	3,660	7,275	14,243	41,823,673	1,944
Clothing.....	7,971	4,795	46,941,304	3,677	24,283	58,609	155,063,975	1,871
Wood products.....	21,869	3,366	63,934,655	2,534	103,601	5,474	261,684,597	2,399
Paper products.....	10,544	4,131	70,561,329	4,808	61,480	8,281	239,546,378	3,434
Printing, publishing and allied industries.....	15,923	9,883	81,078,194	3,142	32,001	8,723	124,548,360	3,058
Iron and steel products.....	28,994	10,266	156,761,826	3,993	141,501	7,475	486,712,301	3,267
Transportation equipment.....	20,313	6,421	114,984,963	4,301	125,112	4,213	440,426,189	3,406
Non-ferrous metal products.....	7,725	2,699	42,294,010	4,057	38,342	3,292	136,416,047	3,277
Electrical apparatus and supplies.....	15,654	6,401	86,573,525	3,925	38,785	16,016	164,073,252	2,994
Non-metallic mineral products.....	4,474	1,626	22,791,238	3,736	26,056	2,196	84,483,836	2,990
Products of petroleum and coal.....	4,191	1,460	23,828,346	4,217	11,390	71	42,737,088	3,729
Chemicals and allied products.....	11,468	6,029	66,622,583	3,808	26,775	5,935	97,968,227	2,995
Miscellaneous industries.....	4,952	2,575	28,099,267	3,733	15,210	9,486	57,855,228	2,343

Average Annual Earnings in the Forty Leading Industries.—In 1953 there were five industries paying office workers an average of \$4,500 or over, as compared with three in 1952. Indicative of the rapidly changing pattern of remuneration in manufacturing is the fact that in 1945, the last year of the War, no industry paid office workers annual salaries

of over \$3,000. Highest average earnings in that year were \$2,935 reported by the brewing industry. Highest average earnings in 1953, amounting to \$5,315, were received by the office and supervisory employees of the pulp and paper industry which was also in first place in 1952. Other industries paying \$4,500 or more, in descending order, were as follows: breweries \$4,828, motor vehicles \$4,808, bridge building and structural steel \$4,616, and primary iron and steel \$4,552. In eleven other industries they ranged between \$4,000 and \$4,500 as follows: railway rolling stock \$4,480, petroleum products \$4,415, motor vehicle parts \$4,362, brass and copper products \$4,273, non-ferrous metal smelting and refining \$4,251, boilers, tanks and engines \$4,192, boxes and bags, paper \$4,184, aircraft and parts \$4,162, iron castings \$4,116, agricultural implements \$4,054, and slaughtering and meat packing \$4,025. In fourteen others they were between \$3,500 and \$4,000, in eight they were between \$2,500 and \$3,500, while in the remaining two they were below \$2,500. These were sawmills and butter and cheese with \$1,810 and \$2,477 respectively.

The increase in average earnings of production workers since 1945 paralleled that of office and supervisory employees. Whereas in 1945 there were only four industries averaging over \$2,000, in 1953 the number had jumped to thirty-six. In 1945 the highest annual earnings, amounting to \$2,365, were paid by the motor vehicle industry, while in 1953 the highest earnings averaging \$3,918 were paid by the petroleum products industry which was also in first place in 1951 and 1952. The highest earnings are usually paid by industries in which the proportion of skilled workers is high and the proportion of female workers is low. There were eight industries in 1953 with average annual earnings of \$3,500 or over. These were: petroleum products \$3,918, pulp and paper \$3,808, motor vehicles \$3,796, non-ferrous metal smelting and refining \$3,669, primary iron and steel \$3,588, aircraft and parts \$3,572, bridge building and structural steel \$3,523, and breweries \$3,510. In fifteen other industries annual earnings ranged between \$3,000 and \$3,500, in seven others they were between \$2,500 and \$3,000, in six other they were between \$2,000 and \$2,500, while in the remaining four they were below \$2,000. Employment by sex, and average annual earnings in the forty leading industries are given in Table 20.

20.—Annual Earnings of Employees in the Forty Leading Manufacturing Industries 1953

NOTE.—Industries ranked according to the aggregate earnings paid.

Industry	Supervisory and Office Employees				Production Workers			
	Employees		Total Earnings	Average Earnings	Employees		Total Earnings	Average Earnings
	Male	Female			Male	Female		
	No.	No.	\$	\$	No.	No.	\$	\$
1 Pulp and paper.....	7,165	2,229	49,932,103	5,315	48,093	707	185,809,557	3,808
2 Aircraft and parts.....	8,136	2,813	45,574,126	4,162	26,380	719	96,801,573	3,572
3 Sawmills.....	12,252	844	23,708,046	1,810	47,327	510	118,422,957	2,476
4 Motor vehicles.....	4,633	1,450	29,245,288	4,808	26,429	461	102,070,846	3,796
5 Primary iron and steel.....	3,334	1,112	20,237,501	4,552	30,300	210	109,472,055	3,588
6 Railway rolling stock.....	2,269	320	11,597,664	4,480	32,729	129	106,428,686	3,239
7 Non-ferrous metal smelting and refining.....	3,558	566	17,530,010	4,251	20,942	49	77,015,601	3,669
8 Printing and publishing....	8,171	4,699	41,400,755	3,217	13,590	2,039	52,420,856	3,354
9 Machinery, heavy electrical.	5,335	1,916	28,602,860	3,945	14,628	3,575	59,756,803	3,283
10 Motor vehicle parts.....	2,789	1,121	17,056,053	4,362	16,913	2,512	64,130,746	3,301
11 Bread and other bakery products.....	3,660	1,195	13,992,400	2,882	21,827	6,858	66,910,287	2,333
12 Furniture.....	3,877	1,172	17,576,030	3,481	22,603	2,116	58,260,147	2,357
13 Machinery, industrial.....	4,815	1,984	25,687,090	3,778	14,888	476	49,608,363	3,229
14 Clothing, men's factory....	2,779	1,644	16,522,772	3,736	9,440	21,256	58,187,116	1,896
15 Miscellaneous electrical apparatus and supplies.....	4,499	1,979	25,528,033	3,941	11,395	4,798	49,048,054	3,029

**20.—Annual Earnings of Employees in the Forty Leading Manufacturing Industries
1953—concluded**

Industry	Supervisory and Office Employees				Production Workers			
	Employees		Total Earnings	Average Earnings	Employees		Total Earnings	Average Earnings
	Male	Female			Male	Female		
	No.	No.	\$	\$	No.	No.	\$	\$
16 Slaughtering and meat packing.....	3,618	1,261	19,637,310	4,025	14,792	3,216	54,794,633	3,043
17 Shipbuilding.....	1,898	546	9,419,945	3,854	20,003	124	63,312,111	3,146
18 Rubber goods, including footwear.....	4,009	1,555	20,205,742	3,632	12,945	4,091	50,788,901	2,981
19 Printing and bookbinding....	4,098	1,898	20,895,071	3,485	12,638	5,212	47,487,544	2,660
20 Clothing, women's factory..	2,286	1,598	15,099,599	3,888	5,926	18,467	46,738,450	1,916
21 Sheet metal products.....	2,904	1,038	15,451,269	3,920	12,691	1,642	43,380,562	3,027
22 Cotton yarn and cloth.....	1,650	969	9,218,655	3,520	13,399	7,160	45,817,885	2,229
23 Castings, iron.....	1,729	609	9,622,171	4,116	12,737	271	43,363,405	3,334
24 Butter and cheese.....	3,436	1,720	12,768,857	2,477	14,643	898	39,738,722	2,557
25 Radios, television sets and parts.....	3,821	1,570	21,187,773	3,930	5,994	5,828	30,046,919	2,542
26 Agricultural implements....	2,516	656	12,857,891	4,054	10,859	130	37,444,116	3,407
27 Petroleum products.....	3,213	1,047	18,808,302	4,415	7,536	62	29,766,470	3,918
28 Sash, door and planing mills.	3,373	653	11,892,105	2,954	15,993	222	36,227,191	2,234
29 Hardware, tools and cutlery.	2,022	1,016	11,871,462	3,908	9,771	1,613	34,067,883	2,993
30 Footwear, leather.....	1,753	806	9,205,639	3,597	10,009	8,929	34,830,483	1,839
31 Synthetic textiles and silk...	2,291	995	12,822,840	3,902	9,311	3,126	31,116,265	2,502
32 Bridge building and structural steel.....	2,197	481	12,362,243	4,616	8,520	45	30,172,081	3,523
33 Miscellaneous iron and steel products.....	2,011	587	8,700,819	3,349	8,889	916	31,677,430	3,231
34 Miscellaneous chemical products.....	2,583	1,072	13,656,350	3,736	7,165	1,707	25,868,604	2,916
35 Boxes and bags, paper.....	1,491	813	9,640,723	4,184	7,048	4,690	29,112,015	2,480
36 Fruit and vegetable preparations.....	1,730	934	8,889,052	3,337	6,534	6,187	23,949,847	1,883
37 Boilers, tanks and platework	1,792	558	9,850,967	4,192	6,414	194	22,629,786	3,425
38 Breweries.....	1,365	389	8,468,636	4,828	6,554	75	23,269,261	3,510
39 Brass and copper products...	1,315	569	8,049,906	4,273	6,917	500	23,489,894	3,167
40 Machinery, household, office and store.....	1,431	697	7,775,388	3,654	6,900	964	23,645,171	3,007
Totals, Forty Leading Industries.....	137,804	49,081	702,549,446	3,759	611,672	122,684	2,157,079,246	2,937
Grand Totals, All Industries.....	195,843	78,382	1,016,679,409	3,707	828,363	224,863	2,940,338,939	2,792

Average Earnings of Production Workers.—In comparing earnings by provinces or groups, consideration should be given to the type of industries in each case since the distribution of industries has a very definite regional significance. In some industries a labour force possessing deftness and speed or the ability to exercise muscular strength is necessary, in others the labour force must exercise craftsmanship or possess a high degree of technical knowledge. Workers in the latter industries naturally command relatively higher wages than those in industries where employees are routine workers.

The ranking of provinces and industries as regards annual earnings is, in many cases, different from that of weekly or hourly earnings since the factors of number of weeks worked per year and number of hours worked per week enter into the picture.

21.—Average Annual, Weekly and Hourly Earnings of Male and Female Production Workers Employed in Manufacturing Industries 1946-53

NOTE.—Figures are based on returns received from establishments employing 15 or more persons; figures for 1946 and 1947 refer to the last week in November whereas those for later years refer to the last week in October.

Year	Average Earnings			Average Hours Worked per Week
	Annual	Weekly	Hourly	
	\$	\$	cents	No.
Male Production Workers—				
1946	1,702	36.23	80.7	44.9
1947	1,909	41.35	92.1	44.9
1948	2,175	45.73	102.3	44.7
1949	2,291	47.33	106.6	44.4
1950	2,419	50.93	114.2	44.6
1951	2,693	56.46	131.3	43.0
1952	2,915	60.85	140.2	43.4
1953	3,082	62.71	147.1	42.6
Female Production Workers—				
1946	943	20.08	50.2	40.0
1947	1,067	23.11	58.2	39.7
1948	1,233	25.91	65.1	39.8
1949	1,315	27.18	68.3	39.8
1950	1,376	29.00	72.5	40.0
1951	1,492	31.27	82.5	37.9
1952	1,638	34.17	86.3	38.6
1953	1,723	35.07	91.0	39.5
All Production Workers—				
1946	1,516	32.38	74.1	43.7
1947	1,713	37.19	85.1	43.7
1948	1,960	41.25	94.6	43.6
1949	2,067	42.61	98.4	43.3
1950	2,183	45.94	105.6	43.5
1951	2,434	51.32	122.2	42.0
1952	2,647	55.17	129.5	42.6
1953	2,792	56.75	135.9	41.7

22.—Average Annual, Weekly and Hourly Earnings of Production Workers in the Manufacturing Industries by Province and Industrial Group 1953

Province and Industrial Group	Average Earnings			Average Hours Worked per Week
	Annual	Weekly	Hourly	
	\$	\$	cents	No.
PROVINCE				
Newfoundland	2,549	57.11	132.1	43.2
Prince Edward Island	1,616	38.07	83.1	45.2
Nova Scotia	2,313	49.27	118.3	41.6
New Brunswick	2,326	49.93	117.0	42.7
Quebec	2,558	52.48	122.5	42.8
Ontario	2,980	59.34	143.5	41.4
Manitoba	2,619	53.48	130.8	40.9
Saskatchewan	2,785	56.33	136.9	41.2
Alberta	2,718	58.43	141.7	41.2
British Columbia	3,108	64.76	164.1	39.5
Yukon and Northwest Territories	3,331	..	..	..
Canada	2,792	56.75	135.9	41.7
INDUSTRIAL GROUP				
Food and beverages	2,393	49.47	116.2	42.6
Tobacco and tobacco products	2,580	52.43	129.5	40.5
Rubber products	2,981	59.08	142.8	41.4
Leather products	1,928	37.90	98.4	38.5
Textile products (except clothing)	2,278	44.20	107.6	41.1
Clothing (textile and fur)	1,886	37.15	97.3	38.2
Wood products	2,399	53.40	122.0	43.8
Paper products	3,434	66.85	153.4	43.6
Printing, publishing and allied industries	3,058	63.10	157.6	40.0
Iron and steel products	3,267	65.02	154.4	42.1
Transportation equipment	3,406	65.45	157.2	41.6
Non-ferrous metal products	3,277	64.43	155.2	41.5
Electrical apparatus and supplies	2,994	60.65	145.1	41.8
Non-metallic mineral products	2,990	60.28	135.8	44.4
Products of petroleum and coal	3,729	76.96	184.8	41.6
Chemicals and allied products	2,995	58.72	138.9	42.3
Miscellaneous industries	2,343	47.47	112.4	42.2

23.—Average Annual, Weekly and Hourly Earnings of Male and Female Production Workers in the Manufacturing Industries by Province and Industrial Group 1953

Province and Industrial Group	Male				Female			
	Average Annual Earnings	Average Weekly Earnings	Average Hourly Earnings	Average Hours Worked per Week	Average Annual Earnings	Average Weekly Earnings	Average Hourly Earnings	Average Hours Worked per Week
	\$	\$	cents	No.	\$	\$	cents	No.
PROVINCE								
Newfoundland.....	2,735	60.50	138.2	43.8	911	20.13	53.8	37.4
Prince Edward Island.....	1,846	42.94	93.0	45.8	1,032	24.02	53.8	43.0
Nova Scotia.....	2,494	53.15	127.4	41.7	1,100	23.45	56.9	41.2
New Brunswick.....	2,534	54.48	124.4	43.8	1,234	26.51	71.6	37.0
Quebec.....	2,911	59.72	134.5	44.4	1,592	32.67	84.8	38.5
Ontario.....	3,257	65.00	154.6	42.0	1,892	37.74	97.5	38.7
Manitoba.....	2,925	59.21	142.0	41.7	1,580	31.98	84.4	37.9
Saskatchewan.....	2,909	58.73	141.2	41.6	1,865	37.62	99.5	37.8
Alberta.....	2,864	61.66	147.7	41.7	1,787	38.45	100.9	38.1
British Columbia.....	3,277	68.10	170.9	39.8	1,842	38.28	105.1	36.4
Yukon and Northwest Territories..	..	..	..	..	..	..	..	..
Canada.....	3,082	62.71	147.1	42.6	1,723	35.07	91.0	38.5
INDUSTRIAL GROUP								
Food and beverages.....	2,687	56.52	128.1	44.1	1,537	32.31	83.3	38.8
Tobacco and tobacco products.....	3,025	61.69	147.5	41.8	2,305	46.99	118.4	39.7
Rubber products.....	3,259	64.74	153.1	42.3	2,102	41.73	108.0	38.6
Leather products.....	2,310	45.27	113.6	39.9	1,437	28.18	76.7	36.7
Textile products (except clothing).....	2,545	49.28	116.5	42.3	1,825	35.34	90.8	38.9
Clothing (textile and fur).....	2,667	53.33	131.4	40.6	1,547	30.94	83.0	37.3
Wood products.....	2,435	54.36	123.6	44.0	1,717	38.35	95.0	40.4
Paper products.....	3,648	70.77	160.8	44.0	1,842	35.77	89.4	40.4
Printing, publishing and allied industries.....	3,446	71.65	176.2	40.7	1,637	34.06	89.8	37.9
Iron and steel products.....	3,322	66.10	158.5	42.2	2,222	44.20	111.5	39.6
Transportation equipment.....	3,438	66.11	158.2	41.8	2,444	47.00	123.3	38.1
Non-ferrous metal products.....	3,399	66.59	159.0	41.6	1,852	36.30	91.2	39.8
Electrical apparatus and supplies.....	3,298	67.24	158.0	42.6	2,259	46.05	114.8	40.1
Non-metallic mineral products.....	3,084	62.26	139.2	44.7	1,884	38.03	92.9	40.9
Products of petroleum and coal.....	3,739	77.17	185.2	41.7	2,056	--	--	--
Chemical and allied products.....	3,255	63.57	148.3	42.9	1,823	35.63	90.2	39.5
Miscellaneous industries.....	2,760	56.37	128.8	43.7	1,673	34.17	85.4	40.0

Average Earnings of Supervisory and Office Employees.—The survey on weekly earnings and hours worked by production workers was expanded in 1946 to include office employees. Earnings and hours worked are reported for male and female workers separately in 13 groups of hours ranging from 30 hours or fewer to 65 hours or more. The earnings reported for the week is the gross amount paid before deductions for income tax, unemployment insurance, etc. Weekly and hourly earnings as well as the hours worked are thus obtained directly from the tabulated results of the establishments covered. The annual earnings however have to be calculated as they are not directly obtained from the survey. To calculate annual earnings the results on weekly earnings are correlated with the results obtained through the annual Census of Industry.

It is the intention in future to alternate the system of classifying employees. One year the basis will be the hours worked per week and the following year it will be on the basis of the earnings per week. Information will thus be made available on both the number of hours worked as well as the range of weekly earnings of employees engaged in manufacturing.

Annual earnings of male office employees in 1953 averaged \$4,327, weekly earnings \$86.43 and hourly earnings \$2.19. For female office employees annual earnings averaged \$2,159, weekly earnings \$43.13 and hourly earnings \$1.14. Average annual earnings of all office employees totalled \$3,707 in 1953, an increase of 63 p.c. since 1946. Weekly earnings at \$73.87 were 68 p.c. higher and hourly earnings at \$1.89 were 78 p.c. higher.

24.—Average Annual, Weekly and Hourly Earnings of Male and Female Supervisory and Office Employees in Manufacturing Industries 1946-53

NOTE.—Figures are based on returns received from establishments employing 15 or more persons; figures for 1946 and 1947 refer to the last week in November and those for later years refer to the last week in October.

Year	Average Earnings			Average Hours Worked per Week
	Annual	Weekly	Hourly	
	\$	\$	cents	No.
Male Supervisory and Office Employees—				
1946	..	53.21	126.7	42.0
1947	..	60.21	146.1	41.2
1948	3,147	63.47	154.4	41.1
1949	3,317	65.37	160.2	40.8
1950	3,507	69.35	172.5	40.2
1951	3,852	77.55	193.9	40.0
1952	3,985	82.60	207.0	39.9
1953	4,327	86.43	219.0	39.5
Female Supervisory and Office Employees—				
1946	..	25.91	65.6	39.5
1947	..	28.68	73.7	38.9
1948	1,551	31.26	80.5	38.8
1949	1,655	32.62	84.5	38.6
1950	1,739	34.38	89.5	38.4
1951	1,907	38.42	100.6	38.2
1952	2,323	41.26	108.6	38.1
1953	2,159	43.13	113.8	37.9
All Supervisory and Office Employees—				
1946	2,270	43.85	106.7	41.1
1947	2,484	49.78	123.2	40.4
1948	2,687	52.91	131.3	40.3
1949	2,836	54.85	136.8	40.1
1950	2,998	58.74	148.0	39.7
1951	3,296	65.98	167.0	39.5
1952	3,513	70.75	179.6	39.4
1953	3,707	73.87	189.4	39.0

25.—Average Annual, Weekly and Hourly Earnings of Supervisory and Office Employees in Manufacturing Industries by Province and Industrial Group 1953

Province	Average Earnings			Average Hours Worked per Week
	Annual	Weekly	Hourly	
	\$	\$	cents	No.
PROVINCE				
Newfoundland	2,403	68.54	164.0	41.8
Prince Edward Island	2,009	53.69	132.6	40.5
Nova Scotia	2,775	62.82	155.1	40.5
New Brunswick	3,096	62.96	153.9	40.9
Quebec	3,670	72.23	184.3	39.2
Ontario	3,892	75.69	195.6	38.7
Manitoba	3,419	68.35	166.3	39.9
Saskatchewan	2,809	61.30	150.6	40.7
Alberta	3,081	69.93	174.8	40.0
British Columbia	3,609	78.41	199.0	39.4
Yukon and Northwest Territories	..	..	..	..
Canada	3,707	73.87	189.4	39.0

25.—Average Annual, Weekly and Hourly Earnings of Supervisory and Office Employees in Manufacturing Industries by Province and Industrial Group 1953—concluded

Industrial Group	Average Earnings			Average Hours Worked per Week
	Annual	Weekly	Hourly	
	\$	\$	cents	No.
Food and beverages.....	3,325	68.37	170.9	40.0
Tobacco and tobacco products.....	4,351	73.72	197.6	37.3
Rubber products.....	3,632	71.04	182.6	38.9
Leather products.....	3,623	61.71	155.1	39.8
Textile products (except clothing).....	3,827	70.73	178.2	39.7
Clothing (textile and fur).....	3,674	62.41	157.6	39.6
Wood products.....	2,534	71.35	173.2	41.2
Paper products.....	4,808	87.68	230.7	38.0
Printing, publishing and allied industries.....	3,142	63.88	171.3	37.3
Iron and steel products.....	3,993	74.88	192.5	38.9
Transportation equipment.....	4,301	79.43	199.1	39.9
Non-ferrous metal products.....	4,057	80.30	203.8	39.4
Electrical apparatus and supplies.....	3,925	75.07	194.5	38.6
Non-metallic mineral products.....	3,736	74.31	189.6	39.2
Products of petroleum and coal.....	4,217	98.27	264.2	37.2
Chemicals and allied products.....	3,808	74.59	194.8	38.3
Miscellaneous industries.....	3,733	69.21	177.9	38.9

26.—Average Annual, Weekly and Hourly Earnings of Male and Female Supervisory and Office Employees in Manufacturing Industries by Province and Industrial Group 1953

Province and Industrial Group	Male				Female			
	Average Annual Earnings	Average Weekly Earnings	Average Hourly Earnings	Average Hours Worked per Week	Average Annual Earnings	Average Weekly Earnings	Average Hourly Earnings	Average Hours Worked per Week
	\$	\$	cents	No.	\$	\$	cents	No.
PROVINCE								
Newfoundland.....	2,620	78.07	185.9	42.0	1,554	34.44	84.0	41.0
Prince Edward Island.....	2,260	64.81	158.1	40.8	1,087	31.15	78.5	39.7
Nova Scotia.....	3,122	72.01	176.1	40.9	1,539	35.48	90.5	39.2
New Brunswick.....	3,564	73.48	178.8	41.1	1,711	35.25	86.8	40.6
Quebec.....	4,260	84.12	211.9	39.7	2,143	42.33	111.7	37.9
Ontario.....	4,609	89.28	227.8	39.2	2,281	44.23	117.6	37.6
Manitoba.....	3,955	76.47	190.2	40.2	1,966	37.98	97.9	38.8
Saskatchewan.....	3,167	71.66	173.5	41.3	1,774	40.16	101.9	39.4
Alberta.....	3,484	79.64	197.1	40.4	1,840	42.05	108.4	38.8
British Columbia.....	4,075	89.70	225.9	39.7	1,993	43.84	114.2	38.4
Yukon and Northwest Territories.....	..	..	..	..	..	..	..	..
Canada.....	4,327	86.43	218.8	39.5	2,159	43.13	113.8	37.9
INDUSTRIAL GROUP								
Food and beverages.....	3,856	78.32	192.9	40.6	2,044	41.55	108.2	38.4
Tobacco and tobacco products.....	5,149	86.27	230.7	37.4	2,930	49.05	131.9	37.2
Rubber products.....	4,210	82.25	210.4	39.1	2,143	41.84	109.5	38.2
Leather products.....	4,256	73.25	180.4	40.6	2,162	37.24	98.3	37.9
Textile products (except clothing).....	4,635	84.77	209.3	40.5	2,234	40.87	107.3	38.1
Clothing (textile and fur).....	4,541	78.81	194.1	40.6	2,316	40.18	105.2	38.2
Wood products.....	2,717	81.52	193.6	42.1	1,342	40.28	104.6	38.5
Paper products.....	5,693	102.39	267.3	38.3	2,550	45.92	123.8	37.1
Printing, publishing and allied industries.....	3,840	78.01	208.6	37.4	2,016	40.95	110.7	37.0
Iron and steel products.....	4,598	86.02	218.9	39.3	2,285	42.71	113.6	37.6
Transportation equipment.....	4,876	90.20	224.4	40.2	2,482	45.93	118.4	38.8
Non-ferrous metal products.....	4,693	93.16	233.5	39.9	2,239	44.44	117.6	37.8
Electrical apparatus and supplies.....	4,565	87.17	224.7	38.8	2,360	45.04	118.8	37.9
Non-metallic mineral products.....	4,304	85.84	215.1	39.9	2,174	43.36	116.9	37.1
Products of petroleum and coal.....	4,881	111.87	298.3	37.5	2,309	52.95	146.3	36.2
Chemicals and allied products.....	4,581	88.12	228.9	38.5	2,336	44.90	119.1	37.7
Miscellaneous industries.....	4,053	84.11	213.5	39.4	2,027	42.08	111.3	37.8

A survey of weekly earnings of salaried employees, classified by (1) managerial and professional employees and (2) office workers, was made for the first time in 1951; it will be repeated every third year. Results of the 1954 survey show that in the managerial classification male employees in the petroleum and coal group were the highest paid, followed by paper products, transportation equipment, and electrical apparatus and supplies groups. Male managerial employees in the food and beverages group were the lowest paid. In the same category, female employees in the products of petroleum and coal group were the highest paid and those in the leather group were the lowest paid.

For office workers the transportation equipment group paid the highest salaries to males while the highest salaries to females were paid in the petroleum and coal products group. The lowest salaries paid to both men and women was by the leather products group.

27.—Average Weekly Earnings of Supervisory and Office Employees in the Manufacturing Industries by Province and Industrial Group 1954

Province and Industrial Group	Managerial and Professional Employees			Office Workers			All Salaried Employees		
	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes
	\$	\$	\$	\$	\$	\$	\$	\$	\$
PROVINCE									
Newfoundland.....	112.78	--	112.28	60.20	37.01	53.32	80.34	37.55	71.39
Prince Edward Island.....	83.47	--	83.47	46.14	30.60	40.01	58.50	30.60	50.04
Nova Scotia.....	91.72	--	91.04	61.35	35.17	50.52	76.73	35.64	65.91
New Brunswick.....	97.32	--	96.48	62.69	35.61	51.71	77.96	35.98	66.18
Quebec.....	109.13	64.70	107.42	68.80	43.77	55.24	88.64	44.83	76.32
Ontario.....	114.38	66.15	112.90	73.22	45.09	60.58	93.91	45.88	79.67
Manitoba.....	97.38	58.43	96.31	63.35	63.35	53.52	79.10	39.67	68.30
Saskatchewan.....	86.34	--	85.69	60.27	60.27	50.57	74.68	41.65	63.96
Alberta.....	103.80	--	103.37	66.81	66.81	57.01	85.34	43.04	74.38
British Columbia.....	110.32	60.56	109.02	74.58	74.58	62.40	93.83	45.22	81.81
Totals.....	111.14	64.89	109.67	70.94	44.16	59.29	90.99	45.00	77.81
INDUSTRIAL GROUP									
Food and beverages.....	94.68	59.38	93.93	65.06	42.33	54.81	81.40	42.87	70.78
Tobacco and tobacco products.....	106.59	--	105.52	68.31	51.06	57.85	93.84	53.44	79.50
Rubber products.....	107.27	--	107.27	64.87	43.24	55.75	85.57	43.80	74.07
Leather products.....	95.04	51.60	92.00	59.70	37.94	49.26	77.23	38.96	64.44
Textile products (except clothing).....	108.98	60.52	107.28	62.10	40.99	51.19	88.28	41.80	72.94
Clothing (textile and fur).....	102.45	55.94	96.56	60.88	40.07	48.30	84.43	41.82	66.24
Wood products.....	101.97	59.23	101.31	66.58	41.36	56.42	84.81	41.79	74.01
Paper products.....	136.86	67.43	135.11	78.28	47.70	65.42	109.16	48.45	93.19
Printing, publishing and allied industries.....	108.44	67.64	105.92	63.28	40.92	51.68	83.19	42.14	67.30
Iron and steel products.....	111.81	67.79	111.19	70.42	44.43	60.52	89.57	44.88	78.30
Transportation equipment.....	120.40	71.21	119.86	80.01	47.90	69.64	95.28	48.22	84.40
Non-ferrous metal products.....	114.06	61.79	113.05	77.08	45.96	64.44	97.90	46.53	85.75
Electrical apparatus and supplies.....	112.43	71.90	111.58	74.58	46.13	63.44	90.46	46.73	78.36
Non-metallic mineral products.....	110.18	--	109.49	68.21	44.44	58.33	89.31	45.01	77.54
Products of petroleum and coal.....	142.07	74.81	138.05	69.59	51.13	61.61	116.07	54.20	101.28
Chemical and allied products.....	108.94	71.72	107.44	68.97	45.62	56.30	94.51	47.16	79.70
Miscellaneous industries.....	107.61	62.80	105.69	66.95	43.57	54.06	89.72	44.42	73.34

'Real' Earnings of Production Workers.—When the index number representing the average yearly earnings of production workers is divided by the Consumer Price Index, on the same base, a measure of 'real' income is obtained. Index numbers for 1944-53 are given in Table 28.

28.—Average Yearly Earnings, and Index Numbers of Earnings, Consumer Price Index and Real Wages of Production Workers in Manufacturing Industries 1944-53

NOTE.—Figures for 1931-43 are given in the 1947 Year Book, p. 560.

Year	Total Yearly Earnings	Production Workers	Average Yearly Earnings	Index Numbers (1949=100)		
				Average Yearly Earnings	Consumer Price Index	Real Value of Average Yearly Earnings
	\$	No.	\$			
1944.....	1,611,555,776	1,030,324	1,564	75.7	74.6	101.5
1945.....	1,427,915,830	928,665	1,538	74.4	75.0	99.2
1946.....	1,329,811,478	877,150	1,516	73.3	77.5	94.6
1947.....	1,611,232,166	940,650	1,713	82.9	84.8	97.8
1948.....	1,876,773,231	957,491	1,960	94.8	97.0	97.7
1949.....	1,963,462,720	949,656	2,067	100.0	100.0	100.0
1950.....	2,078,634,086	952,244	2,183	105.6	102.9	102.6
1951.....	2,459,566,313	1,010,588	2,434	117.8	113.7	103.6
1952.....	2,713,714,909	1,025,355	2,647	128.1	116.5	110.0
1953.....	2,940,338,939	1,053,226	2,792	135.1	115.5	117.0

Percentages of Earnings to Net Value of Products.—Table 29 shows the relation between earnings of employees in manufacturing industries and the total net value of production. Figures of gross production are often used in such calculations, but the values out of which the earnings of employees must come in the long run are the values added to the raw materials while they are in the factory. Such added values constitute the real production of the manufacturing plant and are alone available for payment of salaries and wages, interest, rent, taxes, repairs and all other overhead charges that ordinarily must be met. The percentage of supervisory employee earnings declined steadily with the increasing manufacturing production from 1924 to 1929, while from 1931 to 1935 and again in 1938 and 1939, the percentage of such earnings to value added was above normal owing to decreased industrial activity. It should be borne in mind however that supervisory employees increased 322 p.c. during the period 1917-53 while production workers increased 146 p.c. The percentage of earnings of the latter has fluctuated much less than that of the former. The number of production workers may be adjusted more rapidly to the activity of the industry and wage levels likewise may be adjusted more readily to the price levels of the products. Of the increase in the net value of production since 1939, amounting to \$6,462,017,450, 50 p.c. was passed along in increased earnings.

29.—Percentage of Earnings to Total Net Value of Manufacturing Production 1944-53

Year	Value Added by Processes of Manufacture ¹	Earnings of Supervisory Employees	Earnings of Production Workers	Percentages—		
				of Supervisory Earnings to Value Added	of Production Earnings to Value Added	of Total Earnings to Value Added
	\$	\$	\$	p. c.	p. c.	p. c.
1944.....	4,015,776,010	418,065,594	1,611,555,776	10.4	40.2	50.6
1945.....	3,564,315,899	417,857,619	1,427,915,830	11.7	40.1	51.8
1946.....	3,467,004,980	410,875,776	1,329,811,478	11.8	38.4	50.2
1947.....	4,292,055,802	474,693,800	1,611,232,166	11.0	37.6	48.6
1948.....	4,938,786,981	532,594,959	1,876,773,231	10.8	38.0	48.8
1949.....	5,330,566,434	628,427,937	1,963,462,720	11.8	36.8	48.6
1950.....	5,942,058,229	692,633,349	2,078,634,086	11.6	35.0	46.6
1951.....	6,940,946,783	816,714,604	2,459,566,313	11.8	35.4	47.2
1952.....	7,443,533,199	923,905,251	2,713,714,909	12.4	36.5	48.9
1953.....	7,993,069,351	1,016,679,409	2,940,338,939	12.7	36.8	49.5

¹ Equivalent to "net value of products"; see footnote 1, Table 1, p. 625.

Subsection 2.—Capital and Repair Expenditure

Prior to 1944 the following information on capital investment was collected: fixed capital—land, buildings, fixtures, machinery, tools and other equipment; working capital—inventory value of raw materials, stocks in process, fuel and miscellaneous supplies on hand; inventory value of finished products; cash, bills and accounts receivable, prepaid expenses, etc. This was replaced by the collection of statistics on the expenditure on fixed capital and repairs.

The remarkable increase in capital employed in Canadian manufactures from the beginning of the 20th century has of course run parallel with the rapid growth in industrial operations. From 1900 to 1905 the capital increased from \$446,900,000 to \$833,900,000 and advanced to \$1,958,700,000 in 1915. During this period returns were received from establishments with five employees or more and, while the rise in wholesale prices did not exceed 37 p.c., the capital employed in manufactures increased nearly 340 p.c.

The capital investment in 1943 in all establishments, irrespective of the number of employees, but exclusive of central electric stations, was \$6,317,000,000 as compared with \$2,234,000,000 in 1917, an increase of 171 p.c., while wholesale prices declined about 13 p.c. in the same period.

Capital expenditure by manufacturers in 1953 totalled \$324,500,000 for construction and \$644,500,000 for machinery and equipment, while \$480,100,000 went for repairs. Of the total capital expenditures amounting to \$969,000,000 in 1953, 13.9 p.c. was reported by the chemical products group, 13.0 p.c. by iron and steel products, 11.8 p.c. by paper products, 11.1 p.c. by transportation equipment, 9.7 p.c. by food and beverages, 9.3 p.c. by products of petroleum and coal, 9.0 p.c. by non-ferrous metal products, etc.

Of the groups reporting capital expenditures of \$25,000,000 or more in 1953, five reported increases and six reported decreases. Of increases for 1953 over 1952, transportation equipment with \$35,300,000 led the list, followed by non-ferrous metal products with \$8,600,000, food and beverages \$7,700,000, products of petroleum and coal \$4,000,000, and wood products \$2,800,000. The paper products group with \$25,400,000 led the list of the groups reporting decreases in capital investment. This was followed by iron and its products with \$21,900,000, chemical products \$18,700,000, electrical apparatus and supplies \$4,400,000, textiles other than clothing \$3,600,000, and non-metallic mineral products \$2,000,000. Total capital expenditures in 1953 declined by \$3,600,000 compared with an increase of \$180,000,000 in 1952 and \$290,000,000 in 1951.

30.—Capital and Repair Expenditure by the Manufacturing Industries 1944-53 and classified by Province and Industrial Group 1953

Year, Province and Industrial Group	Capital Expenditure			Repair Expenditure		
	Con- struction	Machin- ery and Equip- ment	Total	Con- struction	Machin- ery and Equip- ment	Total
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
1944.....	61.3	150.1	211.4	60.7	173.5	234.2
1945.....	75.9	204.2	280.1	63.1	170.6	233.7
1946.....	132.2	205.0	337.2	56.8	164.3	221.1
1947.....	184.7	343.2	527.9	62.4	210.7	273.1
1948.....	184.8	394.2	579.0	78.9	253.9	332.8
1949.....	156.6	379.2	535.8	66.7	267.2	333.9
1950.....	135.4	367.1	502.5	67.6	279.0	346.6
1951.....	267.6	525.0	792.6	85.0	337.0	422.0
1952.....	343.6	629.0	972.6	95.2	363.5	458.7

30.—Capital and Repair Expenditure by the Manufacturing Industries 1944-53 and classified by Province and Industrial Group 1953—concluded

Year, Province and Industrial Group	Capital Expenditure			Repair Expenditure		
	Con- struction	Machin- ery and Equip- ment	Total	Con- struction	Machin- ery and Equip- ment	Total
1953	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
PROVINCE						
Newfoundland.....	5.2	8.1	13.3	1.6	4.1	5.7
Prince Edward Island.....	0.2	0.7	0.9	0.1	0.2	0.3
Nova Scotia.....	4.4	8.9	13.3	7.4	8.4	15.8
New Brunswick.....	2.1	8.8	10.9	1.7	9.0	10.7
Quebec.....	44.9	140.2	185.1	22.0	111.4	133.4
Ontario.....	169.3	330.1	499.4	43.5	200.2	243.7
Manitoba.....	2.8	9.0	11.8	3.2	9.1	12.3
Saskatchewan.....	13.2	4.6	17.8	1.9	2.9	4.8
Alberta.....	27.2	64.3	91.5	3.9	8.7	12.6
British Columbia.....	55.2	69.8	125.0	9.3	31.5	40.8
Totals, 1953.....	324.5	644.5	969.0	94.6	385.5	480.1
INDUSTRIAL GROUP						
Food and beverages.....	26.0	59.0	85.0	12.8	40.1	52.9
Tobacco and tobacco products.....	1.0	2.2	3.2	0.6	1.5	2.1
Rubber products.....	4.1	11.1	15.2	1.3	6.1	7.4
Leather products.....	0.9	2.2	3.1	0.7	2.3	3.0
Textile products (except clothing).....	7.9	20.0	27.9	2.8	16.6	19.4
Clothing (textile and fur).....	3.8	10.6	14.4	1.5	4.5	6.0
Wood products.....	10.4	24.2	34.6	7.8	22.3	30.1
Paper products.....	22.5	81.6	104.1	7.0	69.7	76.7
Printing, publishing and allied trades.....	3.8	12.6	16.4	2.0	4.4	6.4
Iron and steel products.....	35.5	78.5	114.0	15.6	70.8	86.4
Transportation equipment.....	46.9	50.5	97.4	11.9	33.0	44.9
Non-ferrous metal products.....	37.6	41.7	79.3	8.7	36.1	44.8
Electrical apparatus and supplies.....	15.8	20.2	36.0	2.7	14.2	16.9
Non-metallic mineral products.....	11.0	21.3	32.3	2.2	22.1	24.3
Products of petroleum and coal.....	61.6	19.9	81.5	11.8	12.0	23.8
Chemicals and allied products.....	32.0	90.3	122.3	4.3	26.5	30.8
Miscellaneous industries.....	3.7	5.0	8.7	0.9	3.3	4.2
Capital items charged to operating expense.....	—	93.6	93.6	—	—	—

Subsection 3.—Size of Manufacturing Establishments

The size of a manufacturing establishment is generally measured either by the value of product or by the number of employees but each of these methods has its limitations. The former measure has to be adjusted for changes in the price level and, as between industries, it makes those in which the cost of raw materials is relatively high appear to operate on a larger scale. The latter takes no account of the differences in capital equipment at different times or in various industries and obviously the increased use of machinery as in flour-milling industry, may lead to an increase in production concurrently with a decrease in number of employees.

Size as Measured by Gross Value of Products.—In 1929 the 719 establishments producing over \$1,000,000 each had an aggregate value of products of \$2,516,064,954 or 62 p.c. of the total for all manufacturing establishments. In 1931 the number of plants in that category was 482, their output being valued at \$1,451,658,954 or 53 p.c. of the total. However by 1944 war demands resulted in manufacturing establishments with a production of \$1,000,000 increasing in number to 1,376 with an output of about 75 p.c. of the total value of manufactures. In 1946, with the decline in production of the large war plants, the manufactures of establishments with an output of \$1,000,000 or over declined to 67 p.c. of the total manufactures although the number of plants increased to 1,442. In 1947 the number of plants increased to 1,716 and the proportion of their production to the total for all plants was 72 p.c. As a result of increased prices and expansion in the physical volume of production in the years 1947-53, establishments with a production of \$1,000,000 or over increased to 2,508 in 1953 and their contribution to the total output rose to 79 p.c.

31.—Manufacturing Establishments and Total and Average Production classified by Value of Product Group 1929, 1939, 1944, 1949, 1952 and 1953

Gross Value Group	Estab-lish-ments	Total Production	Average per Estab-lishment	Estab-lish-ments	Total Production	Average per Estab-lishment
	1929 ¹			1939 ²		
	No.	\$	\$	No.	\$	\$
Under \$25,000.....	14,024	106,735,470	7,611	15,623	120,903,054	7,739
\$ 25,000 but under \$ 50,000.....	2,802	99,529,725	35,521	2,803	99,558,383	35,519
50,000 " 100,000.....	2,209	156,308,744	70,760	2,215	156,410,769	70,614
100,000 " 200,000.....	1,688	237,532,492	140,718	1,584	225,582,130	142,413
200,000 " 500,000.....	1,519	504,218,217	331,941	1,285	390,626,844	303,990
500,000 " 1,000,000.....	636	443,597,677	697,481	689	466,441,130	676,983
1,000,000 " 5,000,000.....	601	1,217,866,089	2,026,400	520	1,091,293,939	2,098,642
5,000,000 or over.....	118	1,298,198,865	11,001,685	81	923,724,311	11,404,004
Totals and Averages.....	23,597	4,063,987,279	172,225	24,800	3,474,540,560	140,102
	1944			1949		
	No.	\$	\$	No.	\$	\$
Under \$25,000.....	13,942	128,782,147	9,237	16,176	145,907,685	9,020
\$ 25,000 but under \$ 50,000.....	4,011	143,023,914	35,658	4,884	174,899,010	35,810
50,000 " 100,000.....	3,442	245,273,500	71,259	4,487	320,878,071	71,513
100,000 " 200,000.....	2,513	355,235,489	141,359	3,630	514,921,581	141,852
200,000 " 500,000.....	2,256	714,546,348	316,731	3,195	1,000,486,294	313,141
500,000 " 1,000,000.....	943	661,670,696	701,686	1,494	1,041,235,578	696,945
1,000,000 " 5,000,000.....	1,089	2,294,546,053	2,107,021	1,505	3,164,936,378	2,102,948
5,000,000 or over.....	287	4,530,614,372	15,786,113	421	6,116,328,703	14,528,097
Totals and Averages.....	28,483	9,073,692,519	318,565	35,792	12,479,593,300	348,670
	1952 ^{3,4}			1953 ^{3,4}		
	No.	\$	\$	No.	\$	\$
Under \$25,000.....	16,123	147,968,877	9,178	15,807	146,599,625	9,274
\$ 25,000 but under \$ 50,000.....	5,116	183,103,579	35,790	5,118	183,907,805	35,934
50,000 " 100,000.....	4,834	346,482,743	71,676	4,899	352,483,499	71,950
100,000 " 200,000.....	3,939	559,681,909	142,087	4,117	583,719,868	141,783
200,000 " 500,000.....	3,759	1,188,144,845	316,080	3,774	1,185,376,535	314,090
500,000 " 1,000,000.....	1,761	1,230,769,856	698,904	1,884	1,308,968,277	694,781
1,000,000 " 5,000,000.....	1,839	3,936,369,518	2,140,495	1,916	4,033,967,234	2,105,411
5,000,000 or over.....	558	9,390,165,708	16,828,254	592	9,990,394,011	16,875,666
Totals and Averages.....	37,929	16,982,687,035	447,749	38,107	17,785,416,854	466,723

¹ Includes central electric stations and dyeing, cleaning and laundry establishments. ² Excludes the Yukon and Northwest Territories. ³ Includes Newfoundland. ⁴ In 1952 gross value of products was replaced by value of factory shipments; see text on pp. 624-625.

Size as Measured by Number of Employees.—In 1929 establishments employing 501 hands or over accounted for 27·3 p.c. of the number of employees engaged in manufacturing. The tendency then in evidence of increasing concentration into larger units was checked by the depression, the percentage dropping to 20·5 in 1933 (central electric stations included) but rising again to 25·6 in 1939. The same held true for establishments employing 101 hands or over. In 1929 they employed 61·9 p.c., in 1933, 55·7 p.c. and in 1939, 61·5 p.c.

The effect of the War on the concentration of industries into large units is illustrated by the increase in the number of establishments employing 500 hands or over. In 1939 such establishments numbered 172 and employed 25·6 p.c. of the total number of employees engaged in manufacturing. By 1944 the number had increased to 383 and the percentage of total employees to 47·0. In a further subdivision of this group in 1944 it was found that 226 establishments employed between 500 and 999 persons, 56 between 1,000 and 1,499, and 101 employed over 1,500. Altogether there were 12 establishments employing over 7,000 persons.

With the resumption of peacetime production the larger establishments declined in size so that by 1953 only 82 establishments employed over 1,500 persons, as compared with 101 in 1944.

32.—Manufacturing Establishments classified by Number of Employees and by Province 1953

Province or Territory	Employees—					
	Up to 499	500 to 799	800 to 999	1,000 to 1,499	1,500 or Over	Total
	No.	No.	No.	No.	No.	No.
Newfoundland.....	936	1	—	1	1	939
Prince Edward Island.....	216	—	—	—	—	216
Nova Scotia.....	1,581	3	3	—	4	1,591
New Brunswick.....	1,085	5	1	2	1	1,094
Quebec.....	11,997	63	24	23	25	12,132
Ontario.....	12,920	91	26	31	46	13,114
Manitoba.....	1,532	3	—	2	3	1,540
Saskatchewan.....	1,062	—	—	—	—	1,062
Alberta.....	2,066	3	2	1	—	2,072
British Columbia.....	4,290	15	6	4	2	4,317
Yukon and Northwest Territories.....	30	—	—	—	—	30
Canada.....	37,715	184	62	64	82	38,107

33.—Establishments and Employees in Manufactures classified by Number of Employees per Establishment 1929, 1939, 1944, 1949, 1952 and 1953

Employee Group	Estab- lishments	Employees	Average per Estab- lishment	Estab- lishments	Employees	Average per Estab- lishment
	1929 ¹			1939 ²		
	No.	No.	No.	No.	No.	No.
Under 5 employees.....	12,273	30,446	2.5	13,002	28,020	2.2
5 to 20 ".....	6,160	62,310	10.1	6,985	68,151	9.8
21 " 50 ".....	2,531	81,846	32.3	2,330	75,324	32.3
51 " 100 ".....	1,262	90,238	71.5	1,158	81,646	70.5
101 " 200 ".....	745	103,944	139.5	695	97,063	139.7
201 " 500 ".....	444	136,397	307.2	458	139,687	305.0
501 or over.....	182	189,253	1,040.0	172	168,168	977.7
Totals and Averages.....	23,597	694,434	29.4	24,800	658,059	26.5
	1944			1949		
	No.	No.	No.	No.	No.	No.
	No.	No.	No.	No.	No.	No.
Under 5 employees.....	13,208	29,958	2.3	16,647	34,865	2.1
5 to 14 ".....	7,111	58,404	8.3	9,133	75,482	8.3
15 " 49 ".....	4,615	124,408	27.0	5,967	159,012	26.7
50 " 99 ".....	1,622	113,869	70.2	1,905	132,069	69.3
100 " 199 ".....	900	126,192	140.2	1,114	156,084	140.1
200 " 499 ".....	644	196,707	305.4	694	213,130	307.1
500 " 999 ".....	383	573,344	1,497.0	332	391,455	1,179.1
1,000 or over.....	—	—	—	—	9,110	0.1
Head offices ³	—	—	—	—	—	—
Totals and Averages.....	28,483	1,222,882	42.9	35,792	1,171,207	32.7
	1952 ⁴			1953 ⁴		
	No.	No.	No.	No.	No.	No.
	No.	No.	No.	No.	No.	No.
Under 5 employees.....	16,990	36,754	2.2	17,053	37,136	2.2
5 to 14 ".....	9,688	79,975	8.2	9,800	81,666	8.3
15 " 49 ".....	6,280	167,897	26.7	6,200	165,880	26.8
50 " 99 ".....	1,985	138,080	69.6	2,057	142,308	69.2
100 " 199 ".....	1,122	156,902	139.8	1,157	161,166	139.3
200 " 499 ".....	719	221,507	308.1	748	230,639	308.3
500 " 999 ".....	241	165,139	685.2	248	172,858	702.7
1,000 or over.....	141	308,099	2,185.1	146	321,469	2,201.8
Head offices ³	—	14,029	—	—	14,329	—
Totals and Averages.....	37,929⁵	1,288,382	34.0	38,107⁵	1,327,451	34.8

¹ Includes central electric stations and dyeing, cleaning and laundry establishments. ² Excludes the Yukon and Northwest Territories. ³ Includes only those head offices that are not located at a plant. ⁴ Includes Newfoundland. ⁵ Includes establishments which are not classifiable.

Size of Establishment in Leading Industries.—Table 34 summarizes the degree of concentration in some of the leading industries of Canada. Concentration is extremely marked in the case of motor vehicles, non-ferrous metal smelting and refining, railway rolling stock, cotton yarn and cloth, primary iron and steel, pulp and paper and aircraft and parts. On the other hand the degree of concentration is low in such industries as women's factory clothing, miscellaneous food preparations, furniture, butter and cheese, bread and other bakery products, fruit and vegetable preparations, sawmills and men's factory clothing.

34.—Percentage Importance of Establishments, each Employing 200 or more Persons in the 25 Leading Industries 1953

	Industry	Number of Establishments Employing 200 or more Persons	Percentage of Total Establishments in the Industry	Percentage of Factory Shipments in the Industry
1	Pulp and paper.....	76	60.0	94.2
2	Non-ferrous metal smelting and refining.....	17	94.4	99.9
3	Motor vehicles.....	10	50.0	98.5
4	Slaughtering and meat packing.....	30	19.7	75.5
5	Petroleum products.....	16	29.1	33.9
6	Sawmills.....	23	0.3	27.4
7	Primary iron and steel.....	30	48.4	92.6
8	Aircraft and parts.....	13	30.2	97.8
9	Butter and cheese.....	17	1.1	19.1
10	Railway rolling stock.....	24	66.7	96.7
11	Motor vehicle parts.....	22	12.3	80.2
12	Rubber goods, including footwear.....	21	29.2	92.4
13	Miscellaneous food preparations.....	4	1.2	15.6
14	Bread and other bakery products.....	24	0.9	29.0
15	Clothing, men's factory.....	37	6.2	40.0
16	Flour mills.....	9	9.5	50.6
17	Miscellaneous electrical apparatus and supplies.....	17	11.3	75.9
18	Machinery, heavy electrical.....	19	34.5	90.0
19	Printing and publishing.....	30	3.8	66.6
20	Furniture.....	17	1.0	17.6
21	Machinery, industrial.....	28	9.0	55.7
22	Sheet metal products.....	26	8.2	61.6
23	Clothing, women's factory.....	9	1.1	6.7
24	Cotton yarn and cloth.....	30	55.6	92.7
25	Fruit and vegetable preparations.....	4	0.9	30.5

PART III.—PROVINCIAL AND LOCAL DISTRIBUTION OF MANUFACTURING PRODUCTION

Section 1.—Provincial Distribution of Manufacturing Production

This Section gives a general analysis of the concentration of the manufacturing industries in the provinces, the principal features of the manufactures of each province and the distribution of manufacturing throughout the principal cities and towns of Canada. Ontario and Quebec are by far the most important manufacturing provinces of Canada. Their combined production in 1953 amounted to \$14,263,289,853 or 80 p.c. of the total gross value of manufactured products. The water power and other varied resources of the two provinces, and their nearness to the larger markets of Canada and the United States have all contributed to this progress.

Table 1 shows the outstanding predominance of Ontario and Quebec in each industrial group. Quebec leads in the manufacture of tobacco and tobacco products, textiles and clothing, paper products and products of petroleum and coal. In each of the other groups Ontario has the greater production of the two provinces. In the production of wood products British Columbia with 37 p.c. of the total holds the dominant position, outranking both Ontario and Quebec which account for 26 and 22 p.c. respectively of the total. In each of the other groups Ontario and Quebec lead by a wide margin.

1.—Summary Statistics of Manufactures of Each Province classified by Industrial Group 1953

Province and Industrial Group	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
Newfoundland						
Food and beverages.....	75	3,621	5,954,562	12,922,597	12,556,690	26,221,514
Tobacco and tobacco products.....	2	2	2	2	2	2
Leather products.....	2	2	2	2	2	2
Textiles.....	5	94	225,994	429,425	236,092	684,224
Clothing.....	2	2	2	2	2	2
Wood products.....	779	2,000	2,179,414	4,601,061	3,426,512	8,207,555
Paper products.....	3	3,502	14,620,636	23,657,671	35,452,650	61,436,478
Printing, publishing and allied in- dustries.....	31	400	1,038,138	538,272	1,644,491	2,224,033
Iron and steel products.....	10	363	977,906	737,983	1,608,256	2,406,046
Transportation equipment.....	7	63	120,248	83,422	174,842	262,381
Non-metallic mineral products.....	15	324	999,737	992,658	1,752,616	3,095,789
Products of petroleum and coal.....	2	2	2	2	2	2
Chemicals and allied products.....	6	71	224,082	641,652	634,476	1,293,889
Miscellaneous industries.....	8	137	264,191	367,280	298,072	692,694
Totals, Newfoundland.....	939	10,575	26,604,908	44,972,021	57,784,697	106,524,603
Prince Edward Island						
Food and beverages.....	110	1,135	1,845,247	13,724,558	3,654,771	17,666,627
Tobacco and tobacco products.....	2	2	2	2	2	2
Leather products.....	2	2	2	2	2	2
Textiles.....	3	64	114,545	1,085,078	141,526	1,233,524
Wood products.....	80	257	287,719	632,576	491,926	1,145,209
Printing, publishing and allied in- dustries.....	9	154	341,066	152,585	580,580	745,933
Iron and steel products.....	4	30	66,825	76,107	94,967	175,699
Transportation equipment.....	2	2	2	2	2	2
Non-metallic mineral products.....	2	2	2	2	2	2
Chemicals and allied products.....	2	2	2	2	2	2
All other groups.....	10	169	440,443	1,292,894	914,991	2,231,978
Totals, Prince Edward Island.....	216	1,809	3,095,845	16,963,798	5,878,761	23,198,970
Nova Scotia						
Food and beverages.....	395	7,949	14,442,206	52,186,237	30,587,425	84,541,186
Leather products.....	4	89	171,748	229,258	263,784	496,414
Textiles.....	11	517	1,164,583	2,726,687	2,389,295	5,245,295
Knitting mills.....	4	834	1,466,118	3,276,763	1,877,616	5,256,348
Clothing.....	10	590	812,792	2,132,886	1,139,701	3,312,520
Wood products.....	858	4,815	7,099,042	19,034,359	13,418,245	32,914,487
Paper products.....	7	1,406	4,583,863	8,693,291	11,410,013	21,502,493
Printing, publishing and allied in- dustries.....	127	1,237	3,101,824	2,159,789	6,056,500	8,327,374
Iron and steel products.....	54	7,237	21,990,570	33,301,844	25,354,251	62,684,491
Transportation equipment.....	59	5,451	15,449,128	24,106,438	22,755,772	47,513,929
Electrical apparatus and supplies.....	2	2	2	2	2	2
Non-metallic mineral products.....	25	555	1,299,158	1,157,540	2,463,217	4,147,949
Products of petroleum and coal.....	2	2	2	2	2	2
Chemicals and allied products.....	16	297	824,357	3,008,387	2,811,606	5,969,143
Miscellaneous industries.....	21	1,063	3,985,366	28,530,056	7,389,740	38,100,635
Totals, Nova Scotia.....	1,591	32,040	76,390,755	180,543,535	127,917,165	320,012,264
New Brunswick						
Food and beverages.....	344	6,445	12,063,757	68,112,165	31,120,328	101,205,047
Leather products.....	9	323	597,791	1,179,093	1,154,701	2,349,567
Textiles.....	16	1,690	3,631,460	4,734,435	4,953,003	9,986,217
Knitting mills.....	2	2	2	2	2	2
Clothing.....	6	180	247,585	474,047	356,717	835,001

For footnotes, see end of table, p. 672.

1.—Summary Statistics of Manufactures of Each Province classified by Industrial Group 1953—continued

Province and Industrial Group	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
New Brunswick—concluded						
Wood products.....	547	4,946	8,768,709	23,733,144	15,703,050	39,938,053
Paper products.....	14	3,996	15,626,013	42,439,683	36,791,987	85,816,852
Printing, publishing and allied in- dustries.....	70	965	2,213,875	1,332,328	3,876,014	5,297,542
Iron and steel industries.....	29	1,202	3,145,860	4,612,547	5,124,905	9,957,657
Transportation equipment.....	11	3,023	8,913,003	8,056,036	11,881,501	20,284,780
Non-ferrous metal products.....	2	2	2	2	2	2
Non-metallic mineral products.....	24	584	1,607,948	2,556,969	3,173,980	6,811,178
Products of petroleum and coal.....	2	2	2	2	2	2
Chemicals and allied products.....	7	157	466,637	3,927,055	1,779,050	5,766,008
Miscellaneous industries.....	17	960	2,470,407	2,640,209	4,702,109	7,502,617
Totals, New Brunswick.....	1,094	24,471	59,753,045	163,797,711	120,617,345	295,750,419
Quebec						
Food and beverages.....	2,627	44,929	111,983,856	589,818,606	300,276,002	902,784,897
Tobacco and tobacco products.....	34	7,503	22,405,927	77,103,195	63,932,237	141,451,706
Rubber products.....	28	6,283	17,571,287	20,694,753	31,161,629	52,559,824
Leather products.....	375	17,855	34,723,978	52,118,417	52,054,160	104,800,254
Textiles.....	449	41,009	102,577,497	207,634,179	153,365,717	368,041,696
Knitting mills.....	139	10,274	21,220,440	29,309,621	37,608,237	67,640,348
Clothing.....	1,659	59,611	120,924,361	226,843,683	209,757,582	437,942,172
Wood products.....	3,362	33,972	70,727,068	151,872,713	122,155,111	277,313,207
Paper products.....	186	32,476	118,753,657	285,745,314	304,766,676	631,551,572
Printing, publishing and allied in- dustries.....	1,130	17,806	53,151,283	48,950,798	95,498,875	145,385,477
Iron and steel products.....	621	42,683	138,069,751	175,703,392	238,492,384	421,769,959
Transportation equipment.....	123	43,745	147,899,116	174,330,301	227,673,532	406,084,289
Non-ferrous metal products.....	178	18,426	62,710,177	286,300,042	163,904,678	482,445,445
Electrical apparatus and supplies.....	86	20,458	68,070,170	92,677,696	108,466,046	202,756,477
Non-metallic mineral products.....	307	10,062	29,618,484	36,503,726	63,247,993	110,667,335
Products of petroleum and coal.....	17	3,924	14,872,881	195,004,647	71,417,807	278,046,864
Chemicals and allied products.....	368	20,649	65,534,921	134,026,946	138,896,012	281,016,371
Miscellaneous industries.....	443	9,890	24,758,460	31,735,083	41,972,821	74,526,970
Totals, Quebec.....	12,132	441,555	1,225,573,314	2,816,373,112	2,424,647,499	5,386,784,863
Ontario						
Food and beverages.....	2,920	70,690	192,642,556	895,536,585	489,917,513	1,405,967,427
Tobacco and tobacco products.....	16	1,926	4,252,338	61,222,664	10,930,923	72,371,748
Rubber products.....	39	16,267	53,289,706	93,562,852	141,173,937	237,746,006
Leather products.....	244	13,578	32,920,891	57,979,230	46,663,956	105,972,135
Textiles.....	383	27,957	72,787,727	157,066,663	131,220,719	293,741,315
Knitting mills.....	133	12,725	28,570,681	43,027,438	39,886,593	83,882,637
Clothing.....	836	26,708	61,943,392	96,602,321	93,260,996	190,619,048
Wood products.....	2,626	37,089	91,668,601	160,005,059	155,457,361	319,131,277
Paper products.....	267	33,202	118,162,422	272,534,254	269,601,918	565,626,274
Printing, publishing and allied in- dustries.....	1,707	33,658	108,563,892	94,514,251	192,011,617	288,695,541
Iron and steel products.....	1,379	120,198	423,078,663	616,462,682	763,383,605	1,416,611,044
Transportation equipment.....	247	88,159	330,858,455	852,415,360	634,467,438	1,498,155,294
Non-ferrous metal products.....	297	27,601	94,430,303	327,921,987	262,042,313	610,253,243
Electrical apparatus and supplies.....	274	54,735	177,721,037	281,698,048	339,744,085	626,626,696
Non-metallic mineral products.....	502	17,578	58,221,614	71,157,289	131,360,625	219,570,624
Products of petroleum and coal.....	35	8,066	31,639,374	187,824,365	76,778,107	277,477,794
Chemicals and allied products.....	539	24,587	82,619,177	225,307,664	252,969,273	497,732,377
Miscellaneous industries.....	670	19,828	54,611,389	65,295,850	99,255,483	166,324,510
Totals, Ontario.....	13,114	634,554	2,017,982,218	4,560,134,562	4,130,126,462	8,876,504,990

For footnotes, see end of table, p. 672.

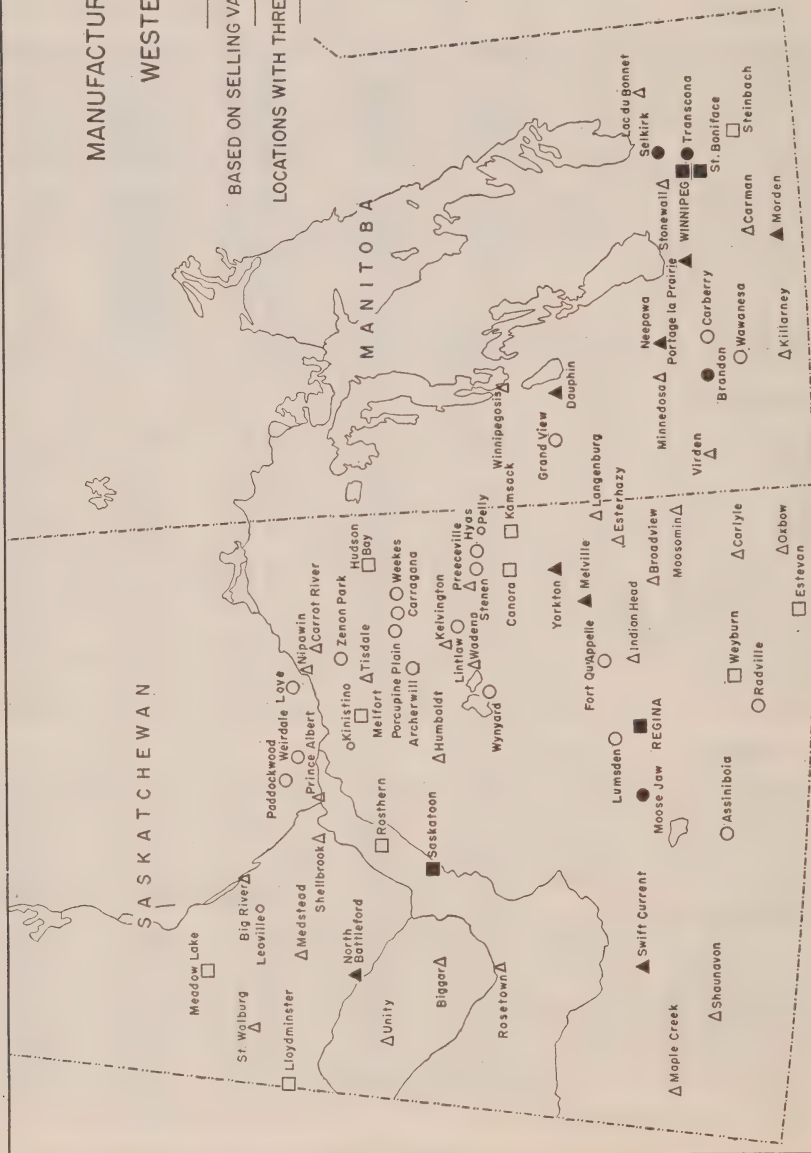
1.—Summary Statistics of Manufactures of Each Province classified by Industrial Group 1953—continued

Province and Industrial Group	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
Manitoba						
Food and beverages.....	366	10,061	28,293,417	175,523,413	65,695,823	243,815,623
Rubber products.....	2	2	2	2	2	2
Leather products.....	27	676	1,314,583	2,709,572	2,038,145	4,785,467
Textiles.....	34	929	1,979,345	6,858,138	3,350,067	10,272,667
Knitting mills.....	5	187	370,144	936,222	491,856	1,436,340
Clothing.....	160	6,055	12,623,568	25,431,313	20,013,563	45,606,876
Wood products.....	333	3,317	8,051,315	15,805,049	13,680,019	29,808,069
Paper products.....	22	1,409	4,478,708	12,100,746	14,206,129	27,379,843
Printing, publishing and allied in- dustries.....	268	3,912	10,659,748	9,172,084	19,565,508	28,964,600
Iron and steel products.....	124	5,064	16,319,866	21,034,307	34,838,643	56,965,945
Transportation equipment.....	24	7,758	24,536,188	26,679,859	25,827,010	53,144,394
Non-ferrous metal products.....	17	530	1,768,743	11,411,080	2,687,384	14,642,965
Electrical apparatus and supplies.....	19	832	2,266,920	4,332,918	4,648,226	9,062,897
Non-metallic mineral products.....	39	1,085	3,048,634	4,104,808	8,655,557	14,215,394
Products of petroleum and coal.....	6	582	2,138,581	20,571,775	5,313,753	27,021,780
Chemicals and allied products.....	41	701	1,755,955	6,893,994	5,922,893	12,959,219
Miscellaneous industries.....	55	642	1,520,564	1,837,837	2,862,863	4,790,379
Totals, Manitoba.....	1,540	43,740	121,126,279	345,403,115	229,797,439	584,872,459
Saskatchewan						
Food and beverages.....	228	5,034	14,179,013	88,880,210	39,836,140	130,335,804
Leather products.....	2	2	2	2	2	2
Textiles.....	8	81	171,454	1,124,250	134,095	1,263,123
Knitting mills.....	2	2	2	2	2	2
Clothing.....	14	210	443,685	832,355	837,850	1,681,083
Wood products.....	509	1,831	3,299,140	6,797,043	6,739,170	13,754,532
Paper products.....	4	22	51,397	83,488	105,667	190,901
Printing, publishing and allied in- dustries.....	179	1,455	4,055,701	2,649,221	6,911,707	9,687,546
Iron and steel products.....	51	825	2,373,533	4,289,456	4,032,817	8,438,081
Transportation equipment.....	7	24	71,148	97,509	117,119	219,686
Non-ferrous metal products.....	2	2	2	2	2	2
Non-metallic mineral products.....	29	359	997,583	864,216	2,345,974	3,399,563
Products of petroleum and coal.....	11	1,039	4,011,855	46,113,979	15,393,431	63,590,439
Chemicals and allied products.....	8	172	624,828	1,155,741	889,178	2,075,735
Miscellaneous industries.....	14	552	2,116,181	27,416,474	2,598,184	31,976,593
Totals, Saskatchewan.....	1,062	11,604	32,395,518	180,303,942	79,941,332	266,613,086
Alberta						
Food and beverages.....	402	10,570	29,365,058	193,887,315	67,849,789	264,072,934
Rubber products.....	2	2	2	2	2	2
Leather products.....	11	48	98,239	114,563	142,994	260,395
Textiles.....	15	181	388,685	2,167,031	756,925	2,939,494
Knitting mills.....	4	58	120,175	154,048	210,727	366,895
Clothing.....	28	874	1,909,859	4,075,820	3,294,818	7,395,997
Wood products.....	1,037	6,787	13,948,788	32,412,305	26,563,076	59,861,485
Paper products.....	9	368	1,037,636	4,145,080	3,257,755	7,456,787
Printing, publishing and allied in- dustries.....	236	2,170	6,248,492	5,024,880	11,959,945	17,115,264
Iron and steel products.....	142	3,245	10,546,248	14,603,498	17,688,884	32,650,000
Transportation equipment.....	22	3,487	11,235,285	12,196,265	12,578,755	25,049,417
Non-ferrous metal products.....	9	96	275,893	947,321	505,492	1,462,465
Electrical apparatus and supplies.....	6	50	120,844	302,947	261,017	572,359
Non-metallic mineral products.....	69	2,359	6,860,139	10,238,533	17,574,278	29,320,200
Products of petroleum and coal.....	18	1,429	5,734,303	60,333,098	26,549,713	89,986,862
Chemicals and allied products.....	27	1,077	3,833,794	4,976,848	8,441,977	14,582,977
Miscellaneous industries.....	37	283	881,715	641,610	2,024,283	2,721,296
Totals, Alberta.....	2,072	33,082	92,605,153	346,221,162	199,660,428	555,814,827

For footnotes, see end of table, p. 672.

BASED ON SELLING VALUE OF FACTORY SHIPMENTS

LOCATIONS WITH THREE OR MORE ESTABLISHMENTS



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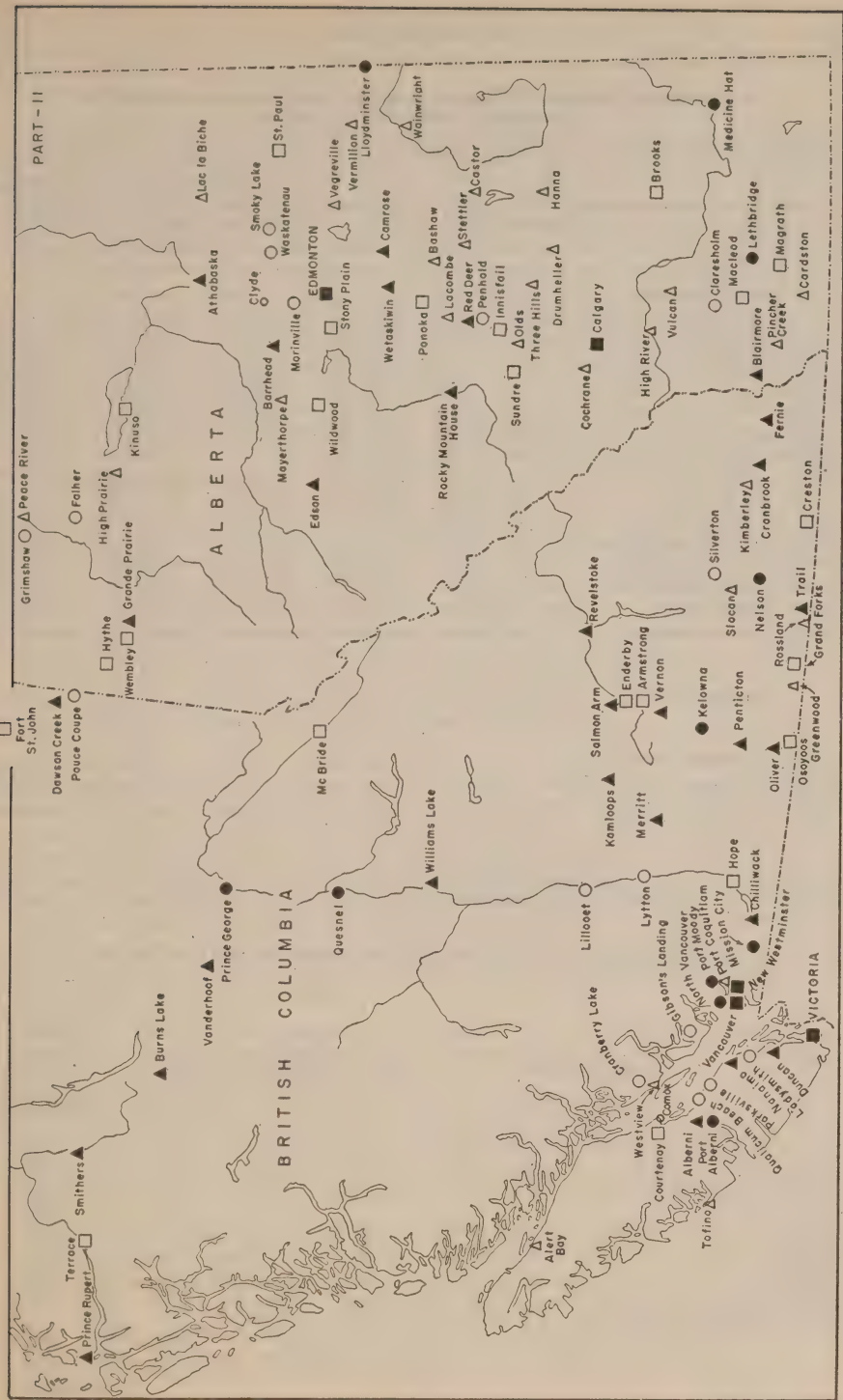
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1.—Summary Statistics of Manufactures of Each Province classified by Industrial Group 1953—concluded

Province and Industrial Group	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
British Columbia						
Food and beverages.....	657	16,195	44,470,133	206,083,582	104,903,600	315,199,055
Tobacco and tobacco products.....	²	²	²	²	²	²
Rubber products.....	3	45	124,359	73,839	326,119	411,596
Leather products.....	21	473	1,085,345	2,035,917	1,586,055	3,654,499
Textiles.....	35	666	1,563,326	4,498,698	2,683,845	7,282,710
Knitting mills.....	7	275	537,161	803,246	1,084,763	1,899,666
Clothing.....	73	1,406	3,034,037	5,098,183	4,500,974	9,650,465
Wood products.....	2,314	39,222	119,428,838	234,546,108	219,363,064	459,251,537
Paper products.....	43	8,055	32,793,375	68,060,516	91,680,788	167,289,321
Printing, publishing and allied in- dustries.....	396	4,760	16,191,360	10,709,511	26,181,803	37,208,967
Iron and steel products.....	284	7,389	26,904,905	35,343,423	50,312,837	86,892,157
Transportation equipment.....	119	4,253	16,045,322	12,846,010	25,407,085	38,748,486
Non-ferrous metal products.....	46	4,395	16,138,268	71,341,128	24,084,759	98,019,859
Electrical apparatus and supplies.....	36	643	2,093,821	4,504,428	4,096,707	8,663,594
Non-metallic mineral products.....	81	1,425	4,584,452	6,517,544	9,188,573	17,597,334
Products of petroleum and coal.....	8	1,136	4,423,000	37,751,287	8,884,605	48,784,633
Chemicals and allied products.....	90	2,454	8,588,276	22,122,217	35,379,207	57,917,702
Miscellaneous industries.....	104	1,052	2,915,340	2,160,117	6,021,431	8,352,109
Totals, British Columbia.....	4,317	93,844	300,921,318	724,495,754	615,686,215	1,366,823,690
Yukon and N.W.T.						
Food and beverages.....	5	20	40,747	64,469	75,639	151,397
Wood products.....	17	74	160,618	291,639	384,392	689,401
Printing, publishing and allied in- dustries.....	4	13	61,175	18,318	76,935	100,095
All other groups ⁴	4	70	307,455	975,544	475,042	1,575,790
Totals, Yukon and N.W.T.....	30	177	569,995	1,349,970	1,012,005	2,516,683

¹ In 1952 gross value of products was replaced by value of factory shipments; see text, pp. 624-625.

² For confidential reasons these figures cannot be published separately and are, therefore, included in "Miscellaneous industries".

³ Figures cannot be shown separately but are included in "All other groups".

⁴ Includes non-ferrous metal products, products of petroleum and coal, and chemicals and allied products.

2.—Concentration of Manufacturing Production in each Province 1953

Province or Territory	Number of Establishments Employing 500 or more Persons	Percentage of Total Number of Establishments in Province	Provincial Percentage of Number of Employees Accounted for by these Establishments
Newfoundland.....	3	0.3	37.9
Prince Edward Island.....	—	—	—
Nova Scotia.....	10	0.6	35.1
New Brunswick.....	9	0.8	32.6
Quebec.....	135	1.1	38.4
Ontario.....	194	1.5	41.1
Manitoba.....	8	0.6	23.8
Saskatchewan.....	—	—	—
Alberta.....	6	0.3	14.5
British Columbia.....	27	0.6	26.9
Yukon and Northwest Territories.....	—	—	—
Canada.....	392	1.0	37.2

Subsection 1.—The Manufactures of the Atlantic Provinces

The Atlantic Provinces are of economic importance in a number of fields, such as pulp and paper, fish processing, sawmills and primary iron and steel. In *Newfoundland* manufacturing production is dominated by the forest and fisheries resources. Pulp and paper was the most important industry in 1953 with shipments valued at \$61,436,478 followed by fish processing with \$11,291,848. These two industries accounted for 68 p.c. of the total production of the Province. In *Prince Edward Island* agriculture and fishing resources, butter and cheese, fish processing, and prepared stock and poultry feeds are the leading industries. *Nova Scotia* is renowned for its coal mines and its fisheries as well as extensive forests and agricultural lands and is favoured with easy access by sea to the high grade iron ore supply of Newfoundland. On these resources are based the leading manufactures of fish processing, primary iron and steel, railway rolling stock, sawmills, pulp and paper, shipbuilding and repairs, and butter and cheese. In addition an important petroleum refinery, cotton yarn and cloth, and coke and gas plants add to the diversification of manufacturing in the Province. The forests of *New Brunswick* give a leading place to its pulp and paper and sawmilling industries. Other important manufacturing and processing is based on fish and agricultural resources.

Considering the Atlantic Provinces as an economic unit, pulp and paper was the leading industry in 1953 with factory shipments valued at \$163,870,036. This was followed by fish processing with \$67,662,488, sawmills \$48,332,180, primary iron and steel \$40,945,920, shipbuilding \$32,735,553, and railway rolling stock \$30,259,941. These six industries accounted for about 52 p.c. of the total production of the Atlantic region. Other leading industries with shipments valued at \$10,000,000 or more were (in order of value of shipments): sugar refining, butter and cheese, petroleum products, sash, door and planing mills, slaughtering and meat packing, bread and other bakery products, miscellaneous foods, coke and gas products, miscellaneous iron and steel products, printing and publishing, breweries, and prepared stock and poultry feeds.

In the Atlantic region the program of industrial development has been more selective than in some of the other provinces. Fish processing, new sawmills, increased pulp-making capacity and the manufacture of non-metallic building materials like cement and gypsum products have accounted for well over 50 p.c. of the industrial growth. There are however a few outstanding exceptions. Two sizable defence plants have been established in *Nova Scotia*, one to repair and overhaul naval aircraft and the other to build and repair radar and related electronic equipment. Considerable development has taken place in *Newfoundland*. Besides plants for the manufacture of cement and gypsum wallboard and plaster, factories for producing boots and shoes, birch veneer, cotton textiles, leather and optical goods, industrial machinery and a leather tannery were established, thus broadening the industrial base of the Province.

Despite the rapid development in the Atlantic Provinces since 1949, manufacturing production did not quite keep pace with the development in the more industrialized provinces of Ontario, Quebec and British Columbia. This is indicated by a slight drop in the Atlantic Provinces' share of the Canadian total which declined from 4.5 p.c. in 1949 to 4.2 p.c. in 1953. In number of persons employed there was an increase of 8.1 p.c. for the Atlantic Provinces as compared with an increase of 13.1 p.c. for Canada as a whole. For earnings of employees the increase was 39.5 p.c. as compared with 52.5 p.c. for Canada, and in selling value of factory shipments 30.1 p.c. as compared with 42.4 p.c.

Until 1953 the increase in employment in the Atlantic Provinces was about the same as for Canada as a whole but in that year it declined by 1.2 p.c. as compared with an increase of 3 p.c. in the Canadian total. This decrease was more than accounted for by a 4 p.c. drop in *Nova Scotia*, the other Atlantic Provinces having continued their upward trend. Selling values of factory shipments were 0.4 p.c. lower in the Atlantic Provinces in 1953 while for Canada as a whole they were 4.7 p.c. higher.

3.—Statistics of the Leading Industries of the Atlantic Provinces 1953

Province and Industry	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
Newfoundland						
1 Pulp and paper ²	3	3,502	14,620,636	23,657,671	35,452,650	61,436,478
2 Fish processing.....	35	2,466	3,313,180	5,773,358	5,093,825	11,291,848
3 Sash, door and planing mills.....	27	326	691,414	2,295,361	1,215,075	3,547,858
4 Breweries.....	3	145	430,731	621,994	2,507,650	3,214,379
5 Sawmills.....	691	1,241	773,815	1,456,231	1,606,668	3,147,960
6 Bread and other bakery products.....	12	268	583,103	1,725,542	1,015,294	2,809,814
7 Carbonated beverages.....	10	126	299,038	683,445	1,263,372	1,991,202
8 Biscuits.....	3	309	518,504	694,407	821,740	1,558,772
9 Printing and publishing.....	6	219	665,303	264,529	1,140,107	1,432,666
10 All other leading industries ³	8	550	1,736,404	3,519,320	3,965,423	7,828,837
Totals, Leading Industries...	798	9,152	23,632,128	40,691,858	54,081,804	98,259,814
Totals, All Industries.....	939	10,575	26,604,908	44,972,021	57,784,697	106,524,603
Percentage of leading industries to all industries.....	84.9	86.5	88.8	90.5	93.6	92.2
Prince Edward Island						
1 Butter and cheese.....	20	169	338,797	3,552,209	720,695	4,352,638
2 Fish processing.....	47	489	519,034	2,707,784	875,289	3,641,560
3 Feeds, stock and poultry, prepared	10	57	101,669	1,035,145	192,863	1,245,884
4 Printing and publishing.....	3	139	327,244	137,325	563,111	711,969
5 Fruit and vegetable preparations..	7	107	136,624	448,508	201,988	667,528
6 Sawmills.....	74	144	124,167	322,672	302,984	637,918
7 All other leading industries ⁴	4	251	677,697	7,582,572	1,698,489	9,352,895
Totals, Leading Industries...	165	1,356	2,225,232	15,786,215	4,555,419	20,610,392
Totals, All Industries.....	216	1,809	3,095,845	16,963,798	5,878,761	23,198,970
Percentage of leading industries to all industries.....	76.4	74.9	71.9	93.1	77.5	88.8
Nova Scotia						
1 Primary iron and steel.....	5	4,916	15,681,950	23,742,464	13,761,489	40,945,920
2 Fish processing.....	199	3,988	6,519,515	24,751,258	12,133,144	37,505,202
3 Shipbuilding.....	19	3,284	9,625,935	10,163,150	13,481,323	23,947,229
4 Pulp and paper.....	4	1,197	4,172,384	7,366,865	10,617,374	19,358,711
5 Sawmills.....	732	3,245	4,147,968	10,600,259	8,200,928	19,055,939
6 Railway rolling stock.....	3	1,073	2,970,813	12,588,348	5,976,337	18,856,260
7 Miscellaneous iron and steel prod- ucts.....	3	1,098	3,198,030	6,358,941	5,234,550	11,994,398
8 Butter and cheese.....	25	716	1,544,938	7,606,670	3,133,843	11,008,734
9 Sash, door and planing mills.....	62	883	1,725,468	5,244,930	3,211,653	8,570,555
10 Bread and other bakery products.....	74	821	1,653,752	4,083,363	3,214,187	7,583,377
11 Printing and publishing.....	29	726	2,091,933	1,236,006	4,401,097	5,719,438
12 Knitted goods, other than hosiery	3	734	1,330,146	3,085,919	1,713,097	4,883,286
13 Confectionery.....	8	929	1,585,699	2,834,256	1,753,858	4,668,946
14 Fruit and vegetable preparations..	16	432	660,700	2,269,452	1,649,052	4,028,352
15 Carbonated beverages.....	29	293	677,130	1,274,605	2,403,752	3,789,756
16 Feeds, stock and poultry, prepared	10	93	188,745	3,188,035	505,034	3,718,713
17 Miscellaneous food preparations..	9	150	312,241	1,696,191	1,072,345	2,812,420
18 Clothing, men's factory.....	7	378	497,630	1,695,603	681,284	2,393,442
19 Fertilizers.....	3	56	140,368	1,451,413	752,693	2,216,632
20 Miscellaneous wood products, <i>n.e.s.</i>	6	122	276,181	1,643,642	512,518	2,201,415
21 All other leading industries ⁵	7	2,555	8,093,211	32,271,846	17,566,001	52,210,519
Totals, Leading Industries...	1,253	27,689	67,094,737	165,153,276	111,975,559	287,469,244
Totals, All Industries.....	1,591	32,040	76,390,755	180,543,535	127,917,165	320,012,264
Percentage of leading industries to all industries.....	78.8	86.4	87.8	91.5	87.5	89.8

For footnotes, see end of table.

3.—Statistics of the Leading Industries of the Atlantic Provinces 1953—concluded

Province and Industry	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
New Brunswick	No.	No.	\$	\$	\$	\$
1 Pulp and paper.....	7	3,756	15,128,611	40,846,999	35,691,823	83,074,847
2 Sawmills.....	432	3,385	5,592,046	14,472,320	10,761,972	25,490,363
3 Fish processing.....	167	2,325	2,640,110	10,287,801	4,567,415	15,223,878
4 Slaughtering and meat packing.....	3	350	1,114,278	8,663,185	2,246,481	11,020,634
5 Miscellaneous food preparations.....	11	380	610,011	7,349,279	2,796,926	10,207,034
6 Sash, door and planing mills.....	63	1,093	2,290,617	6,337,424	3,427,143	9,872,095
7 Butter and cheese.....	30	438	925,412	6,559,685	2,334,295	9,111,999
8 Shipbuilding.....	3	1,248	2,927,965	1,910,267	6,155,605	8,177,537
9 Bread and other bakery products.....	62	767	1,611,429	3,527,283	3,365,469	7,114,798
10 Feeds, stock and poultry, prepared.....	12	162	364,360	5,159,685	822,413	6,034,166
11 Fertilizers.....	3	133	402,736	3,864,728	1,544,016	5,455,512
12 Heating and cooking apparatus.....	3	693	1,860,518	2,256,803	3,046,555	5,430,928
13 Printing and publishing.....	20	616	1,549,812	733,828	2,925,987	3,717,387
14 Miscellaneous wood products, n.e.s.....	6	148	351,823	2,109,455	768,879	2,974,332
15 Confectionery.....	3	344	621,122	1,173,025	1,070,245	2,290,751
16 Footwear, leather.....	3	300	561,547	1,111,329	1,102,968	2,228,142
17 Carbonated beverages.....	23	242	499,228	760,732	1,368,688	2,207,263
18 All other leading industries.....	12	5,358	14,970,461	36,559,281	27,424,377	65,932,141
Totals, Leading Industries.....	863	21,738	54,022,086	153,683,109	111,421,257	275,563,807
Totals, All Industries.....	1,094	24,471	59,753,045	163,797,711	120,617,345	295,750,419
Percentage of leading industries to all industries.....	78.9	88.8	90.4	93.8	92.4	93.2

¹ In 1952 gross value of products was replaced by value of factory shipments; see text, pp. 624-625.

n.e.s.; miscellaneous food preparations; machinery, industrial; paints, varnishes and lacquers.

Includes cement, hydraulic; dairy products, bags, cotton and jute; fertilizers; slaughtering and meat packing.

Includes breweries; cotton yarn and cloth; wire and wire goods; aircraft and parts; coke and gas products; and petroleum products.

Includes biscuits; breweries; brooms, brushes and mops; brass and copper products; cotton yarn and cloth; cement, hydraulic; railway rolling stock; sugar refining; and synthetic textiles and silk.

² Publication.

Subsection 2.—The Manufactures of Quebec

Quebec with about 30 p.c. of Canada's total selling value of factory shipments ranks as the second largest industrial province in Canada.

There are several important factors which contributed to the great industrial development of the Province. The geographic situation of the Province is extremely favourable, with an excellent large harbour 800 miles inland where sea-going vessels of heavy tonnage can dock. There is also an extensive highway system linking the small rural areas to the big industrial centres. Other significant factors include abundant forest resources, water power, minerals, agricultural lands and, of even more importance, an industrious and stable population.

Quebec also ranks highest in available water power resources, having more than 40 p.c. of the total recorded for all Canada. Its power development has been remarkable and its installation of 7,717,860 h.p. at the end of 1953 represents over 50 p.c. of the total for Canada. The St. Lawrence River Beauharnois development of 1,408,000 h.p. and the Saguenay River Shipshaw development of 1,200,000 h.p. are the two largest in the country.

Quebec has developed its \$5,400,000,000 manufacturing output with such leading industries as pulp and paper, non-ferrous metal smelting and refining, petroleum products, slaughtering and meat packing, cotton yarn and cloth, men's and women's clothing, tobacco, cigars and cigarettes, synthetic textiles and silk, railway rolling stock and leather footwear. In common with the rest of Canada, Quebec experienced a great industrial expansion following World War II, an expansion affecting existing industrial areas as well as many towns and villages in the accessible areas of the Province.

Quebec's leading industry is pulp and paper with an output of approximately \$511,000,000 in 1953. Quebec is a principal world centre for the production of newsprint with 55 major pulp and paper plants concentrated in the Three Rivers and Shawinigan

Falls districts as well as along the Saguenay, Ottawa and St. Lawrence Rivers. The production of non-ferrous metals has expanded considerably during the past decade. The output of aluminum has made impressive strides during recent years and reached a record total of 548,445 tons in 1953. Quebec, with its new furniture factories, its new titanium smelter and its expanded aluminum-making facilities, is challenging Ontario's long established lead in such fields of manufacture.

Quebec's industries are not as diversified as those of Ontario, although a number have an output approximately 50 p.c. or more of total Canadian production. Quebec predominates in tobacco, cigar and cigarette industries with 94.0 p.c. of the Canadian total; women's factory clothing 68.7 p.c.; cotton yarn and cloth 65.8 p.c.; leather footwear 59.7 p.c.; synthetic textiles and silk 57.3 p.c.; men's factory clothing 56.7 p.c.; railway rolling stock 46.4 p.c.; miscellaneous electrical appliances 44.8 p.c.; and pulp and paper 43.4 p.c.

4.—Statistics of the Leading Industries of the Province of Quebec 1953

Industry	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
1 Pulp and paper.....	55	24,173	96,812,159	219,816,982	251,526,471	511,474,753
2 Non-ferrous metal smelting and refining.....	9	10,513	38,574,737	206,100,319	123,449,268	360,402,924
3 Petroleum products.....	8	2,636	10,905,932	185,182,964	62,906,739	257,951,853
4 Slaughtering and meat packing...	36	4,467	13,830,937	143,020,867	30,001,134	173,981,064
5 Railway rolling stock.....	9	16,844	55,974,465	80,207,737	74,420,630	156,943,317
6 Clothing, men's factory.....	350	19,014	39,653,955	83,812,987	71,126,823	155,362,378
7 Clothing, women's factory.....	502	18,519	38,962,259	80,282,827	70,803,377	151,398,926
8 Aircraft and parts.....	22	14,767	53,646,235	56,592,155	91,432,301	148,918,382
9 Tobacco, cigars and cigarettes....	29	7,127	21,788,726	75,129,603	63,089,451	138,606,911
10 Cotton yarn and cloth.....	21	14,322	34,612,187	91,879,654	43,906,677	138,284,551
11 Butter and cheese.....	690	5,304	11,837,901	90,492,509	22,706,423	115,143,831
12 Miscellaneous electrical apparatus and supplies.....	35	12,120	40,402,310	45,082,380	67,670,216	113,781,127
13 Sawmills.....	1,788	10,537	17,529,940	58,709,361	36,405,428	96,026,261
14 Miscellaneous food preparations....	85	2,764	7,302,962	62,621,609	27,474,410	90,732,383
15 Shipbuilding.....	13	10,719	34,005,878	31,174,241	55,409,501	87,290,590
16 Synthetic textiles and silk.....	36	11,322	30,302,973	36,827,657	44,960,008	83,894,376
17 Bread and other bakery products...	944	9,832	21,668,015	37,664,965	39,043,008	79,275,643
18 Footwear, leather.....	172	13,329	25,859,053	39,079,715	38,994,709	78,430,221
19 Miscellaneous chemical products....	75	7,286	21,400,887	45,095,320	29,945,848	76,674,583
20 Furniture.....	517	10,027	23,982,190	35,229,397	39,394,120	75,369,931
21 Machinery, industrial.....	60	7,324	24,025,915	25,206,773	48,342,255	74,321,361
22 Brass and copper products.....	37	3,083	10,333,913	45,072,023	20,264,536	66,203,818
23 Boxes and bags, paper.....	53	4,523	11,187,399	35,103,801	28,182,645	63,599,710
24 Printing and publishing.....	81	6,684	21,434,861	17,086,617	40,223,417	57,691,584
25 Breweries.....	6	2,568	9,739,051	16,953,682	38,812,961	56,493,331
26 Sheet metal products.....	74	5,032	15,836,705	28,959,450	25,818,722	55,275,009
27 Feeds, stock and poultry, prepared	204	1,529	3,351,599	44,869,358	8,238,580	53,613,301
28 Bridge building and structural steel.....	13	3,631	13,820,577	23,771,687	29,123,499	53,320,447
29 Radio and television sets and parts.....	20	4,850	16,796,013	30,643,567	22,120,925	52,948,231
30 Rubber goods, including footwear...	28	6,283	17,571,287	20,694,753	31,161,629	52,559,824
31 Primary iron and steel.....	16	4,157	14,801,522	21,252,723	25,901,830	49,846,420
32 Distilled liquors.....	8	2,327	7,094,325	15,810,307	31,727,629	48,511,848
33 Acids, alkalis and salts.....	16	3,307	12,441,548	18,702,072	25,293,426	48,483,947
34 Sash, door and planing mills.....	787	5,876	11,897,554	27,984,748	18,322,121	47,584,033
35 Printing and bookbinding.....	556	6,782	19,043,244	15,478,859	29,584,413	45,498,703
36 Medicinal and pharmaceutical pre- parations.....	98	3,621	10,834,252	15,362,693	28,271,136	44,142,988
37 Carbonated beverages.....	186	2,850	7,397,479	13,093,716	26,986,763	40,906,303
38 Miscellaneous paper goods.....	70	2,471	6,454,379	22,276,630	15,909,175	38,452,155
39 Knitted goods.....	75	4,991	9,451,300	18,952,417	16,968,539	36,293,654
40 Paints, varnishes and lacquers....	34	2,292	7,829,926	17,001,634	18,568,713	35,799,423
Totals, Leading Industries².....	7,818	309,803	890,396,550	2,178,280,759	1,514,999,456	4,111,490,855
Totals, All Industries.....	12,132	441,555	1,225,573,314	2,816,373,112	2,424,647,499	5,386,784,863
Percentage of leading industries to all industries.....	64.4	70.1	72.6	77.3	74.8	76.3

¹ In 1952 gross value of products was replaced by value of factory shipments; see text, pp. 624-625.

² Sugar refining is also a leading industry. Statistics however are confidential since there are fewer than three firms reporting.

Subsection 3.—The Manufactures of Ontario

Ontario, now recognized as one of the world's major industrial areas, accounts for approximately 50 p.c. of Canada's manufacturing production. Here, the proximity of raw materials, cheap hydro-electric power, and a strategic location in relation to export markets, not only on this Continent but overseas, have been the decisive factors in the development of Ontario to its present industrial position. Most of the manufactures of the Province and most of its population are located in southern Ontario. This area has the inestimable advantage of bordering on the St. Lawrence-Great Lakes Waterway System, which gives access westward to the heart of the Continent and eastward to the shipping routes of the world, and which is also the source of most of Ontario's hydro-electricity. Many new industrial areas are being created as new industries and branch plants of established industries are increasingly being located in the smaller towns.

Despite the great industrial progress made by other provinces, Ontario continues to maintain its predominance and in 1953 produced about 50 p.c. of the nation's manufactured goods. Steel ingot capacity is increasing. Huge investments have gone into the construction of plants in Sarnia for a whole group of new products based on Alberta oil flowing through the Edmonton-Superior pipeline. Other significant developments are taking place in synthetic rubber and industrial and consumer chemicals. Ontario has continued to gain in such traditional lines as motor vehicles, industrial and farm machinery, and the manufacture of household equipment, business and office machinery and electrical apparatus and supplies. Numerous plants making aircraft components and building materials have favoured the Toronto area, and chemical production has been rising in the vicinity of Sarnia and along the lower reaches of the St. Lawrence River between Cornwall and Kingston.

Ontario also has the greatest diversification of manufacturing production of any province. Certain industries, such as the manufacture of motor vehicles, motor vehicle parts, heavy electrical machinery, agricultural implements, machine tools, starch and glucose, bicycles and the processing of raw tobacco are carried on in practically this Province alone. Of the forty leading industries in Canada in 1953, a substantial number of them were dominated by Ontario's share of the total production. These industries, with the percentage which the production of each bears to that of the 1953 Canada totals are as follows: motor vehicles 98·7 p.c., motor vehicle parts 96·8 p.c., heavy electrical machinery 94·0 p.c., agricultural implements 91·2 p.c., rubber goods 81·8 p.c., primary iron and steel 76·8 p.c., radio and television sets and parts 72·4 p.c., iron castings 71·2 p.c., fruit and vegetable preparations 64·6 p.c., miscellaneous paper products 64·1 p.c., sheet metal products 60·8 p.c., printing and bookbinding 58·7 p.c., aircraft and parts 58·6 p.c., industrial machinery 57·5 p.c., brass and copper products 55·3 p.c., boxes and bags, paper 53·3 p.c., miscellaneous electrical apparatus 53·0 p.c., and furniture 50·4 p.c.

5.—Statistics of the Leading Industries of the Province of Ontario 1953

Industry	Estab-lish-ments	Em-ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
1 Motor vehicles.....	13	31,943	127,775,690	551,267,610	269,184,242	824,580,689
2 Non-ferrous metal smelting and refining.....	7	10,012	38,527,021	197,566,885	162,093,574	376,501,229
3 Pulp and paper.....	43	18,631	74,971,008	153,553,660	177,179,882	352,414,301
4 Primary iron and steel.....	26	24,383	93,900,808	162,583,778	167,295,716	352,408,279
5 Slaughtering and meat packing.....	61	8,706	29,117,304	263,894,240	61,492,019	327,326,431
6 Motor vehicle parts.....	105	22,177	77,566,306	158,541,735	135,275,467	297,765,989
7 Rubber goods, including footwear.....	39	16,267	53,289,706	93,562,852	141,173,937	237,746,006
8 Aircraft and parts.....	17	20,431	80,281,209	72,332,752	159,922,729	233,669,531
9 Machinery, heavy electrical.....	37	23,723	82,805,273	81,189,337	146,566,947	223,604,515
10 Petroleum products.....	12	5,071	20,933,480	140,283,154	43,622,002	193,594,550
11 Agricultural implements.....	32	12,778	46,504,598	84,329,988	70,846,260	156,805,494
12 Radio and television sets, and parts.....	68	11,905	33,153,112	81,193,239	63,171,780	144,859,196

¹ In 1952 gross value of products was replaced by value of factory shipments; see text, pp. 624-625.

5.—Statistics of the Leading Industries of the Province of Ontario 1953—concluded

Industry	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
13 Butter and cheese.....	499	7,690	21,112,419	100,382,817	37,084,189	140,323,165
14 Sheet metal products.....	170	10,825	35,566,793	71,446,091	64,072,531	137,158,117
15 Miscellaneous electrical apparatus and supplies.....	96	10,189	33,119,122	60,889,641	72,069,468	134,488,218
16 Fruit and vegetable preparations..	199	9,411	21,156,281	75,253,530	55,551,894	132,533,662
17 Machinery, industrial.....	183	12,359	42,598,810	47,120,218	81,613,231	130,011,593
18 Flour mills.....	55	2,172	6,806,826	101,470,921	17,346,294	119,499,336
19 Printing and publishing.....	301	12,975	45,039,258	32,655,949	83,990,722	117,692,974
20 Furniture.....	673	14,956	39,607,973	52,687,103	62,836,918	116,745,089
21 Bread and other bakery products.	849	14,674	36,605,736	52,639,369	59,924,269	116,521,951
22 Castings, iron.....	94	10,257	36,412,658	50,251,636	59,478,287	112,129,542
23 Miscellaneous food preparations...	124	4,413	12,523,191	70,058,650	33,997,078	105,850,983
24 Boxes and bags, paper.....	104	7,619	22,332,007	62,115,661	42,961,461	105,753,146
25 Printing and bookbinding.....	734	12,713	37,601,443	37,753,374	64,928,660	103,437,436
26 Brass and copper products.....	87	5,250	18,316,070	59,219,219	34,139,590	94,425,494
27 Miscellaneous paper goods.....	114	6,338	19,006,593	50,819,681	42,646,297	94,413,066
28 Hardware, tools and cutlery.....	247	10,616	34,253,868	28,764,497	62,725,742	92,804,046
29 Railway rolling stock.....	15	7,195	25,365,544	51,182,024	39,350,894	91,686,708
30 Miscellaneous chemical products..	128	4,653	16,219,469	37,619,531	44,914,621	88,933,157
31 Refrigerators, vacuum cleaners and appliances.....	63	7,263	22,893,291	42,597,168	45,347,020	88,914,283
32 Breweries.....	21	3,130	12,857,429	20,592,422	62,061,665	83,594,803
33 Clothing, men's factory.....	160	11,373	26,020,365	42,551,611	39,416,642	82,244,104
34 Soaps, washing compounds and cleaning preparations.....	66	3,165	11,435,863	34,995,599	44,869,073	80,944,064
35 Coke and gas products.....	16	2,818	10,067,623	45,985,426	31,220,581	80,321,616
36 Sawmills.....	1,207	8,664	18,492,607	41,590,943	37,129,639	79,573,208
37 Feeds, stock and poultry, prepared	284	2,675	6,667,231	60,868,148	13,854,308	75,952,490
38 Machinery, household, office and store.....	44	6,067	19,997,369	32,730,354	41,836,395	75,086,351
39 Acids, alkalis and salts.....	20	4,502	17,177,592	22,651,512	43,717,546	74,892,156
40 Boilers, tanks and platemwork.....	43	6,172	23,000,485	27,553,465	43,331,055	71,650,475
Totals, Leading Industries.....	7,056	426,061	1,431,982,431	3,454,744,790	2,960,241,505	6,554,857,443
Totals, All Industries.....	13,114	634,554	2,017,982,218	4,560,134,562	4,130,126,462	8,876,504,990
Percentage of leading industries to all industries.....	53.8	67.1	70.9	75.8	71.7	73.8

¹ In 1952 gross value of products was replaced by value of factory shipments; see text, pp. 624,625.

Subsection 4.—The Manufactures of the Prairie Provinces

The leading industries of the Prairie Provinces are those based on agricultural resources—grain-growing, cattle-raising and dairying areas. Next in importance generally are industries providing for the more necessary needs of the resident population, such as the baking of bread, printing and publishing, etc. The extensive railway services require large shops for the maintenance of rolling stock, especially in the Winnipeg area. The widespread use of motor vehicles and power machinery on farms has given rise to petroleum refineries in each province. The greatly increased production of crude petroleum in Alberta has led to further development of the refining industry. This industry has made tremendous strides in the Prairie Provinces since 1949. It has increased its proportion of the total manufacturing production of the Prairie Provinces from 8.5 p.c. in 1949 to 12.6 p.c. in 1953. Manitoba, as the early commercial centre of the Prairies, has had a greater initial industrial development than either of the other two. Its natural resources of accessible water powers, forests and, more recently, minerals, have given rise to quite a diversification of industrial production. In Saskatchewan, while the main economic role continues to be played by agriculture, both oil and mineral wealth are being developed.

In water power resources the Prairie Provinces are not so well endowed as the more highly industrialized provinces of Quebec, Ontario and British Columbia. At the end of 1953 power installation in the three Provinces totalled only 1,034,695 h.p. or about 7 p.c. of the Canadian total. Manitoba had 716,900 h.p., Saskatchewan 109,835 h.p. and Alberta 207,960 h.p. With the present developments of natural gas and oil, the Prairie Provinces will in large measure be able to overcome a lack of water power resources which is so vital to industrial development. Manitoba has more water power resources and has developed them to a greater extent than either of the other Prairie Provinces. Practically all the developed sites are located on the Winnipeg River. These supply not only Winnipeg and its suburban areas but, through the transmission network of the Manitoba Power Commission, power is distributed to more than 400 municipalities and a large part of rural areas of southern Manitoba where farm electrification is a primary objective. In Saskatchewan water power development is confined to the northern mining districts. The southern portions of Saskatchewan and Alberta are lacking in water power resources but have large fuel reserves. In Alberta present developments are located in the Bow River basin and serve Calgary and numerous other municipalities between the International Boundary and the area north of Edmonton.

In the Prairie Provinces the nature of developments vary from one province to another. Alberta has moved to the forefront, especially since 1950. There the emphasis has been more on the manufacture of machinery and equipment, including products like drill bits and tanks, heat exchangers and other bulky equipment for the burgeoning oil and gas industries. Chemicals, and especially petrochemicals, have made striking gains; second in terms of new growth, they now embrace various rayon intermediates and polythene plastics, as well as fertilizers and the manufacture of other inorganic products like caustic soda and chlorine. Sizable gains have been made by the expansion of food-processing plants and the construction of additional factories for making building materials.

Manitoba, next to Alberta, has made the best showing on the Prairies, a surprisingly large number of small and medium-sized firms having located in the Winnipeg area since 1945. The clothing industry has outstripped electrical apparatus in employment gains; food processing, building materials and machinery manufacture following in that order. Plantwise however the largest single increase has been in meat packing, although three large electrical apparatus concerns and a sizable new oil refinery have also been established in the Province.

Postwar developments in Saskatchewan by contrast have continued on more or less traditional lines. The largest gains for instance have been recorded in food processing. Notable in this respect has been the establishment of three new fresh water fish-packing plants. The manufacture of building materials, including non-metallic mineral products and lumber, has also increased. However the largest single gain in employment has been in the refining of prairie oil for local use.

Despite the recent rapid development in the Prairie Provinces manufacturing production did not keep pace with the developments in the more industrialized provinces of Ontario, Quebec and British Columbia. This is indicated by the slight drop in the Prairie Provinces' share of the Canadian total which declined from 8.1 p.c. in 1939 to 7.9 p.c. in 1953. There was an increase of 105 p.c. in number of employees as compared with an increase of 102 p.c. for the whole of Canada, and factory shipments were 398 p.c. higher as against 412 p.c. for Canada.

6.—Statistics of the Leading Industries of the Prairie Provinces 1953

	Province and Industry	Establishments	Employees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
		No.	No.	\$	\$	\$	\$
Manitoba							
1	Slaughtering and meat packing...	13	3,088	10,357,475	88,767,316	21,163,107	110,456,068
2	Railway rolling stock.....	4	6,154	19,919,048	19,935,570	20,550,955	40,983,287
3	Butter and cheese.....	72	1,430	3,658,301	20,923,362	7,295,273	28,658,915
4	Flour mills.....	8	543	1,318,422	23,657,789	3,008,136	26,836,993
5	Petroleum products.....	4	400	1,570,469	19,692,425	4,611,062	25,237,912
6	Clothing, men's factory.....	49	2,907	5,552,078	12,928,893	9,484,421	22,483,403
7	Miscellaneous food preparations...	25	735	1,990,277	15,737,032	5,510,754	21,511,258
8	Furniture.....	113	1,693	4,454,253	8,570,856	7,438,029	16,136,196
9	Printing and publishing.....	80	2,000	5,652,613	4,424,422	11,035,236	15,598,112
10	Bread and other bakery products.	135	1,731	4,315,739	6,588,303	6,986,438	14,008,701
11	Pulp and paper ²	3	503	1,948,335	4,049,995	8,014,536	13,023,260
12	Clothing, women's factory.....	27	1,526	3,481,077	7,075,753	5,363,636	12,476,340
13	Bridge building and structural steel.....	3	750	2,692,676	4,328,953	7,793,963	12,211,840
14	Breweries.....	6	583	1,946,802	2,160,434	8,288,972	10,611,391
15	Primary iron and steel.....	4	980	3,365,384	2,815,466	6,594,524	10,001,096
16	Printing and bookbinding.....	75	1,318	3,453,171	3,417,723	6,380,683	9,868,197
17	Sheet metal products.....	21	911	2,660,236	3,994,759	5,027,865	9,108,452
18	Boxes and bags, paper.....	8	589	1,749,657	5,521,652	3,384,436	8,968,105
19	Agricultural implements.....	18	604	1,665,552	3,591,045	4,960,289	6,339,114
20	Feeds, stock and poultry, prepared	33	216	544,871	5,056,952	1,170,298	6,304,143
21	Feeds, cotton and jute.....	4	219	524,454	5,490,998	674,102	6,186,704
22	Carbonated beverages.....	21	343	933,397	1,862,664	4,134,090	6,137,404
23	Fur goods.....	55	670	1,720,470	3,506,541	2,250,935	5,779,383
24	Miscellaneous iron and steel products.....	7	505	1,794,897	2,107,528	3,174,047	5,354,647
25	Paints, varnishes and lacquers.....	5	249	627,962	2,684,276	2,602,214	5,315,541
26	All other leading industries ³	4	1,809	5,387,241	15,257,711	7,544,177	23,396,616
Totals, Leading Industries ...		797	32,456	93,284,857	294,148,418	174,442,178	475,293,078
Totals, All Industries		1,540	43,740	121,126,279	345,403,115	229,797,439	584,872,459
Percentage of leading industries to all industries.....		51·7	74·2	77·0	85·2	75·9	81·2
Saskatchewan							
1	Petroleum products.....	9	1,003	3,890,557	45,754,470	14,969,468	62,777,002
2	Flour mills.....	12	723	2,301,439	34,638,648	7,903,981	42,911,324
3	Slaughtering and meat packing...	8	1,142	3,656,786	23,486,604	8,151,631	31,879,941
4	Butter and cheese.....	60	1,298	3,240,315	20,497,484	7,112,918	28,008,313
5	Breweries.....	5	393	1,403,248	2,430,232	8,069,105	10,653,206
6	Bread and other bakery products.	91	1,036	2,480,046	4,287,106	5,331,587	9,867,524
7	Printing and publishing.....	100	1,130	3,204,739	1,870,055	5,647,070	7,625,152
8	Sawmills.....	441	994	1,210,958	1,854,793	2,948,543	4,908,053
9	Carbonated beverages.....	24	289	758,081	1,586,738	2,394,121	4,133,801
10	Sash, door and planing mills.....	29	433	1,125,761	2,029,237	2,016,270	4,101,872
11	Sheet metal products.....	5	237	652,051	1,902,950	1,476,525	3,399,481
12	Miscellaneous wood products, n.e.s. ⁴	8	132	330,382	2,098,331	870,069	2,984,948
Totals, Leading Industries		792	8,810	24,254,363	142,436,648	66,891,288	213,250,617
Totals, All Industries		1,062	11,604	32,395,518	180,303,942	79,941,332	266,613,086
Alberta							
1	Slaughtering and meat packing...	12	3,378	10,608,525	92,715,225	18,731,942	111,945,243
2	Petroleum products.....	15	1,412	5,694,916	60,186,566	26,453,659	89,741,011
3	Flour mills.....	14	869	2,148,048	34,810,062	4,482,839	39,531,690
4	Butter and cheese.....	100	1,819	4,569,534	26,260,907	7,686,129	34,353,786
5	Sawmills.....	833	3,476	5,508,627	10,378,399	12,847,395	23,781,960
6	Sash, door and planing mills.....	107	2,034	5,165,706	14,280,400	8,129,131	22,599,745
7	Railway rolling stock.....	3	2,318	7,413,581	9,649,096	7,413,581	17,289,589
8	Bread and other bakery products.	128	1,691	4,485,792	7,573,679	8,771,132	16,649,587
9	Breweries.....	5	541	1,881,837	3,531,447	10,146,777	13,815,434
10	Printing and publishing.....	81	1,187	3,469,042	2,735,532	7,672,717	10,494,148

For footnotes, see end of table.

6.—Statistics of the Leading Industries of the Prairie Provinces 1953—concluded

Province and Industry	Estab-lish-ments	Em-ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
Alberta—concluded						
11 Miscellaneous food preparations...	14	311	847,125	7,512,281	2,044,401	9,700,607
12 Concrete products.....	32	586	1,905,412	4,439,756	3,977,353	8,551,945
13 Bridge building and structural steel.....	3	606	2,143,981	3,783,827	3,422,422	7,245,315
14 Feeds, stock and poultry, prepared	48	264	662,299	5,258,810	1,637,963	7,002,081
15 Miscellaneous wood products, n.e.s.....	11	365	977,516	4,472,407	1,992,345	6,542,647
16 Clothing, men's factory.....	9	694	1,539,756	3,552,715	2,846,161	6,415,886
17 Machine shops.....	67	798	2,674,921	2,375,746	3,720,393	6,195,342
18 All other leading industries ²	5	1,053	3,508,573	9,671,966	16,220,148	27,870,372
Totals, Leading Industries...	1,487	23,402	65,205,191	303,188,821	148,196,488	459,726,388
Totals, All Industries.....	2,072	33,082	92,605,153	346,221,162	199,660,428	555,814,827
Percentage of leading industries to all industries.....	71.8	70.7	70.4	87.6	74.2	82.7

¹ In 1952 gross value of products was replaced by value of factory shipments; see text, pp. 624-625. ² Publications of these figures was authorized by the firms concerned. ³ Include: aircraft and parts, biscuits, and non-ferrous metal smelting and refining. ⁴ Non-ferrous metal smelting and refining is also a leading industry. Statistics however are confidential since there are fewer than three firms reporting. ⁵ Includes cement, hydraulic; fertilizers; and sugar refining.

Subsection 5.—The Manufactures of British Columbia

British Columbia, with factory shipments totalling \$1,366,823,690 in 1953, ranked third among the provinces in manufacturing production. This Province increased its share of the total Canadian output from 7.1 p.c. in 1939 to 7.8 p.c. in 1952, with a slight decline to 7.7 p.c. in 1953.

Forest resources, fisheries, minerals and electric power have given a broad base and wide diversification to its industrial development. The sawmilling industry ranked first in 1953 with a gross value of shipments of \$323,474,522, and pulp and paper second with \$138,883,093. British Columbia holds the dominant position among the provinces in the production of wood products, its output making up 37 p.c. of the Canadian total. The Province also accounted for approximately 48 p.c. of the output of the nation's fish processing industry in 1953 and plays a large part in making Canada the largest fish exporting nation in the world.

A feature of recent progress has been that new developments are taking place in areas far removed from accepted industrial centres. Growing lines of communication and transportation are fanning out from and leading into formerly locked interior communities to tap a vast new potential and offer new sources of provincial economic unity and strength. Factories and plants in remote sections are drawing greater value in employment and dollars from natural resources. The growth of the Province industrially may be indicated by the increase in employment—in 1953, more than double the prewar figure. In dollar terms, gross value of manufacturing was more than double the immediate postwar period, and up more than fivefold since 1939. The consumption of 3,200,000,000 kwh. of electric power by manufacturers during 1953 marked a steady upward climb of 29 p.c. in the past decade.

British Columbia ranks second among the provinces in available water power resources and its hydraulic development, which at the end of 1953 totalled 1,702,858 h.p. out of a Canadian total of 15,140,880 h.p., was exceeded only by Quebec and Ontario.

In the investment in new plant and equipment by British Columbia manufacturers, the wood products group, principally sawmills and new plants manufacturing plywood and furniture, are well out in front both in number of firms and in new development opportunities; paper products rank second.

7.—Statistics of the Leading Industries of the Province of British Columbia 1953

Industry	Estab- lish- ments	Em- ployees	Earnings	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
1 Sawmills.....	1,824	28,594	87,569,268	163,192,486	156,345,168	323,474,522
2 Pulp and paper.....	12	6,432	28,088,527	50,058,822	81,452,218	138,883,093
3 Fish processing.....	77	3,389	9,308,400	39,449,608	25,438,255	65,726,800
4 Veneers and plywoods.....	12	4,353	13,838,443	22,913,006	33,132,477	56,503,885
5 Slaughtering and meat packing.....	11	1,477	5,024,832	44,335,142	8,771,763	53,415,699
6 Sash, door and planing mills.....	204	3,066	9,125,328	31,240,764	15,819,252	47,658,772
7 Petroleum products.....	4	795	3,358,977	34,624,372	4,588,282	40,562,462
8 Miscellaneous food preparations.....	45	856	2,015,856	33,237,728	6,793,359	40,172,603
9 Fertilizers.....	6	1,271	5,000,012	11,028,239	23,955,694	35,156,537
10 Shipbuilding.....	28	3,405	13,394,083	10,249,400	21,913,882	32,548,906
11 Fruit and vegetable preparations.....	72	2,330	4,850,424	18,126,106	10,520,227	28,946,460
12 Butter and cheese.....	31	1,833	5,279,962	17,639,996	7,713,526	25,994,334
13 Bridge building and structural steel.....	5	1,519	6,084,070	8,698,221	15,100,579	23,986,933
14 Bread and other bakery products.....	263	2,626	7,349,250	10,847,370	12,114,555	23,623,489
15 Printing and publishing.....	91	2,811	10,327,631	5,653,094	17,268,777	23,112,254
16 Furniture.....	196	1,992	5,296,339	7,828,366	7,732,075	15,713,015
17 Feeds, stock and poultry, prepared.....	42	691	1,807,125	11,137,359	3,505,138	14,921,025
18 Breweries.....	11	659	2,379,516	3,243,948	11,011,427	14,506,072
19 Sheet metal products.....	27	834	2,959,557	9,088,938	5,059,847	14,279,966
20 Boxes and bags, paper.....	15	785	2,274,024	8,641,778	4,666,356	13,389,625
21 Machinery, industrial.....	37	1,388	5,232,993	3,013,220	9,019,789	12,185,005
Totals, Leading Industries².....	3,013	71,086	230,564,617	544,247,963	481,922,606	1,044,761,457
Totals, All Industries.....	4,317	93,844	300,921,318	724,495,754	615,686,215	1,366,823,690

¹ In 1952 gross value of products was replaced by value of factory shipments; see text, pp. 624-625. ² Other leading industries for which statistics cannot be shown since there are fewer than three establishments in each industry are: non-ferrous metal smelting and refining, sugar refining, and distilled liquors.

Section 2.—Manufacturing Industries in Urban Centres

The prosperity of most of the cities and towns of Canada, especially eastern Canada, is intimately connected with their manufacturing industries, which provide employment for a large proportion of the labour forces. In western Canada the cities are more largely distributing centres, though manufactures are increasing rapidly there also.

Table 8 indicates the extent to which the manufacturing industries of Canada are concentrated in urban centres and shows by province the proportion of the gross manufacturing production contributed by cities and towns having factory shipments of over \$1,000,000 each. In the more highly industrialized provinces of Ontario and Quebec such cities and towns accounted for 90 p.c. and 94 p.c. in 1952, and 89 p.c. and 92 p.c. in 1953 respectively of the total manufactures for those Provinces, while in the Atlantic Provinces and British Columbia, where sawmilling, fish packing, and dairying are leading industries, the proportions were 72 p.c. and 59 p.c. in 1952 and 73 p.c. and 59 p.c. in 1953 respectively. In the Prairie Provinces manufacturing is confined largely to a few urban centres.

8.—Urban Centres, each with a Gross Value of Factory Shipments¹ of over \$1,000,000, Number of Establishments and Production in these Centres as a Percentage of the Provincial Total, by Province 1953.

NOTE.—Statistics published in this table are sometimes higher than the figures published in Table 11, pp. 639-641, since the table below includes statistics of towns with fewer than three establishments and production of over \$1,000,000 each. It is not possible to publish this information in Table 11 without disclosing the operations of individual establishments.

Province or Territory	Urban Centres with a Gross Value of Factory Shipments of over \$1,000,000 each	Establishments Reporting in Urban Centres Producing over \$1,000,000 each	Production in Urban Centres Producing over \$1,000,000 each	Total Production in each Province	Production in Urban Centres as a Percentage of Total Production in each Province
	No.	No.	\$	\$	p.c.
Newfoundland.....	5	128	67,668,600	106,524,603	63.4
Prince Edward Island.....	3	58	15,836,475	23,198,970	67.8
Nova Scotia.....	25	520	229,269,577	320,012,264	71.0
New Brunswick.....	18	361	232,692,613	295,750,419	78.9
Quebec.....	164	8,027	5,032,680,928	5,386,784,863	92.3
Ontario.....	184	9,596	7,863,324,104	8,876,504,990	88.9
Manitoba.....	12	1,084	503,341,751	584,872,459	86.0
Saskatchewan.....	8	379	213,444,772	266,613,086	79.0
Alberta.....	19	945	426,023,544	555,814,827	76.4
British Columbia.....	33	2,554	809,263,698	1,366,823,690	59.2
Yukon and Northwest Territories..	—	—	—	2,516,683	—
Canada.....	471	23,652	15,393,546,062	17,785,416,854	86.9

¹In 1952 gross value of products was replaced by value of factory shipments; see text, pp. 624-625.

9.—Principal Statistics of the Manufacturing Industries of the Six Leading Manufacturing Cities 1939, 1944, 1946, 1949, 1952 and 1953

City and Year	Estab-lish-ments	Em-ploy-ees	Earnings	Cost of Fuel and Electricity	Cost of Materials	Gross Value of Products ¹
	No.	No.	\$	\$	\$	\$
Montreal, Que.....						
1939	2,501	105,315	114,602,118	7,667,848	254,188,246	483,246,583
1944	3,109	185,708	308,396,358	15,855,932	650,618,563	1,215,988,014
1946	3,785	173,507	291,381,617	14,740,538	602,667,823	1,147,945,303
1949	4,136	184,779	399,943,526	16,487,474	847,444,669	1,566,713,694
1952	4,283	187,396	496,270,442	18,291,520	1,041,585,029	1,960,826,915
1953	4,398	193,129	544,284,191	18,428,249	1,067,911,378	2,042,662,785
Toronto, Ont.....						
1939	2,885	98,702	122,553,435	7,306,351	240,532,281	482,532,331
1944	3,344	154,538	260,776,613	11,743,947	513,429,109	1,020,345,353
1946	3,632	145,556	247,298,288	12,238,707	549,256,912	1,036,939,790
1949	4,005	158,562	368,510,524	17,003,151	837,148,440	1,579,186,450
1952	3,825	149,020	439,286,411	17,159,813	943,718,148	1,787,644,247
1953	3,781	154,251	478,086,271	18,968,416	980,873,073	1,875,747,249
Hamilton, Ont.....						
1939	461	31,512	39,563,423	5,267,577	70,829,034	152,746,340
1944	480	53,500	94,982,915	12,095,294	171,117,467	363,033,672
1946	501	45,951	80,959,432	10,434,888	150,977,835	308,033,098
1949	546	54,665	137,641,333	17,728,214	285,180,403	563,982,920
1952	575	59,257	190,167,980	21,287,922	385,701,709	781,596,810
1953	566	60,451	201,515,979	22,408,131	385,515,852	824,407,315
Windsor, Ont.....						
1939	222	17,729	25,938,890	1,673,417	63,907,106	122,474,320
1944	231	35,912	80,667,573	4,890,272	232,102,240	387,603,874
1946	256	30,889	60,315,436	3,748,979	138,788,813	244,925,148
1949	283	34,591	94,304,627	5,373,123	271,392,923	494,162,203
1952	330	36,628	130,027,457	6,027,143	377,637,512	646,949,316
1953	338	37,514	140,481,193	7,559,592	402,209,586	682,273,319

For footnote, see end of table, p. 684.

9.—Principal Statistics of the Manufacturing Industries of the Six Leading Manufacturing Cities 1939, 1944, 1946, 1949, 1952 and 1953—concluded

City and Year	Estab- lish- ments	Em- ployees	Earnings	Cost of Fuel and Electricity	Cost of Materials	Gross Value of Products ¹
	No.	No.	\$	\$	\$	\$
Winnipeg, Man.....1939	648	17,571	20,717,273	1,491,823	44,873,043	81,024,272
1944	686	25,870	38,824,299	2,445,806	119,917,745	198,169,626
1946	756	26,730	42,354,650	2,625,075	121,531,306	206,381,007
1949	860	28,687	58,604,162	3,166,077	143,827,270	255,006,806
1952	843	28,162	70,744,396	3,157,945	160,844,930	296,263,701
1953	860	28,230	76,008,218	3,266,587	156,860,845	300,186,774
Vancouver, B.C.....1939	829	17,957	22,382,192	1,397,159	56,565,511	101,267,243
1944	933	43,473	79,141,407	3,568,106	142,416,371	289,390,718
1946	1,071	31,408	55,960,984	3,075,458	138,045,068	270,165,166
1949	1,225	33,536	78,793,345	4,392,716	204,642,985	358,620,526
1952	1,275	33,296	102,163,999	5,292,224	248,964,894	437,663,057
1953	1,316	33,822	108,896,725	5,448,266	255,906,780	448,591,543

¹ Net value is derived from gross value by deducting cost of materials, fuel and electricity. In 1952 gross value of products was replaced by value of factory shipments; see text, pp. 624-625.

10.—Principal Statistics of the Manufacturing Industries in the Six Leading Metropolitan Areas 1953

Metropolitan Area	Estab- lish- ments	Em- ployees	Earnings	Cost of Fuel and Electricity	Cost at Plant of Materials Used	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
Greater Montreal.....	5,003	251,225	737,435,151	42,716,188	1,653,080,212	3,085,082,140
Greater Toronto.....	4,572	205,557	648,327,048	27,713,429	1,299,321,029	2,553,888,865
Greater Hamilton.....	663	63,543	210,573,444	23,020,652	401,358,030	855,616,562
Greater Vancouver.....	1,681	49,532	161,628,254	8,945,566	384,368,688	704,538,393
Greater Windsor.....	369	38,321	142,710,549	7,735,130	408,406,060	693,215,025
Greater Winnipeg.....	1,018	38,449	107,011,108	5,821,089	301,907,085	505,438,005

¹ In 1952 gross value of products was replaced by value of factory shipments; see text, pp. 624-625.

11.—Statistics of Manufactures of Urban Centres, each with Factory Shipments¹ of \$5,000,000 or over and with Three or More Establishments 1953

NOTE.—Statistics for urban centres with three or more establishments cannot be published when one establishment has 75 p.c. or two establishments 90 p.c. of the total production.

Province and Municipality	Estab- lish- ments	Em- ployees	Earnings	Cost of Fuel and Electricity	Cost at Plant of Materials Used	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
Newfoundland—						
St. John's.....	105	2,639	5,888,327	479,753	11,246,824	24,389,280
Prince Edward Island—						
Charlottetown.....	32	654	1,568,373	161,103	7,419,640	10,649,994
Nova Scotia—						
Amherst.....	24	1,026	2,300,941	355,831	5,238,256	8,956,379
Halifax.....	142	6,343	10,149,616	923,880	28,631,138	60,508,551
Lunenburg.....	15	747	1,722,699	106,672	3,322,929	5,725,629
New Glasgow.....	32	1,047	2,480,687	342,915	3,996,681	8,669,267
Sydney.....	42	6,027	19,179,464	4,703,665	33,840,482	62,660,190
Trenton.....	7	1,933	5,474,514	622,414	17,660,995	28,656,636
Truro.....	50	1,221	2,226,512	217,085	6,577,795	10,616,668
Yarmouth.....	25	700	1,424,028	134,440	3,741,422	6,323,350

For footnote, see end of table, p. 687.

11.—Statistics of Manufactures of Urban Centres, each with Factory Shipments¹ of \$5,000,000 or over and with Three or More Establishments 1953—continued

Province and Municipality	Estab- lish- ments	Em- ployees	Earnings	Cost of Fuel and Electricity	Cost at Plant of Materials Used	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
New Brunswick—						
Fredericton.....	43	937	1,853,557	132,220	3,613,416	6,802,404
Lancaster.....	9	713	2,096,388	543,213	5,336,997	12,041,170
Moncton.....	47	3,355	9,905,427	578,236	21,543,185	36,918,064
Saint John.....	114	4,714	11,422,986	1,306,043	43,355,518	71,692,506
Quebec—						
Acton Vale.....	14	926	1,876,492	56,539	3,072,544	5,850,701
Beauharnois.....	16	1,640	5,484,452	3,770,993	11,640,928	27,300,411
Berthierville.....	16	684	1,499,422	149,658	3,222,756	6,295,229
Cap de la Madeleine.....	37	2,407	6,283,138	1,457,912	21,999,220	45,358,368
Coaticook.....	23	1,073	2,306,767	120,112	5,146,763	8,692,124
Delson.....	4	518	1,678,920	724,880	3,057,966	7,784,510
Drummondville.....	49	6,772	17,985,979	1,481,358	26,474,346	62,269,231
Farnham.....	21	1,149	2,645,420	179,515	5,102,403	10,343,214
Granby.....	90	5,492	13,592,861	791,364	28,646,141	55,511,311
Grand Mère.....	30	2,359	6,230,116	1,522,536	14,063,203	30,031,548
Hull.....	60	4,067	12,166,610	2,104,206	26,827,601	51,957,705
Huntingdon.....	14	584	1,644,671	156,659	6,409,006	9,330,835
Joliette.....	60	2,177	4,858,746	530,423	8,226,045	17,641,973
Lachine.....	71	9,335	32,902,127	1,188,341	39,104,650	106,709,804
Lasalle.....	40	4,353	13,669,654	2,813,926	51,420,999	99,719,459
L'Assomption.....	16	651	1,663,250	103,046	2,634,196	5,148,342
Longueuil.....	33	3,500	10,377,769	455,864	12,964,753	31,337,553
Mariève.....	20	602	1,201,565	75,467	3,390,693	5,564,068
Montmagny.....	40	1,452	3,105,569	186,180	5,617,569	11,476,247
Montreal.....	4,398	193,129	544,284,191	18,428,249	1,067,911,378	2,042,662,785
Montreal East.....	32	5,978	22,241,766	14,609,000	315,804,741	425,407,273
Mount Royal.....	25	3,135	10,463,005	291,794	17,875,054	37,126,370
Notre Dame de Portneuf.....	14	521	1,175,273	297,058	3,255,477	5,297,167
Outremont.....	50	2,233	5,955,607	148,999	10,702,953	22,544,451
Plessisville.....	25	890	2,071,331	89,004	3,105,293	6,245,407
Princeville.....	16	456	933,923	91,519	5,103,939	8,302,921
Quebec.....	437	16,846	40,543,039	5,077,793	92,517,183	177,238,532
Rock Island.....	14	722	1,915,287	66,392	1,500,635	5,462,096
St. Hyacinthe.....	81	4,555	9,605,404	531,143	23,841,928	41,774,175
St. Jean (St. Johns).....	71	5,290	14,997,694	1,009,628	22,850,238	46,940,540
St. Jérôme (Terrebonne Co.).....	58	3,584	8,210,703	529,369	13,051,241	27,630,127
St. Lambert.....	16	658	1,745,103	73,171	3,300,567	6,552,055
St. Laurent.....	54	16,697	59,119,047	1,470,248	76,323,354	185,072,874
Ste. Marie.....	20	862	1,804,605	140,930	4,255,036	8,779,005
St. Michel (de-Laval).....	48	612	1,464,206	86,272	2,379,323	5,132,072
Ste. Thérèse de Blainville.....	36	1,059	2,100,728	92,844	3,613,128	7,343,219
Shawinigan Falls.....	49	5,870	19,311,663	9,448,061	48,668,868	114,595,806
Sherbrooke.....	110	8,065	19,399,620	1,283,884	36,882,134	77,889,867
Sorel.....	34	2,093	5,825,163	2,713,646	6,196,137	14,340,002
Terrebonne.....	20	756	1,758,638	69,556	2,664,127	5,539,210
Three Rivers.....	97	7,364	22,156,904	6,614,100	47,395,024	110,819,751
Valleyfield.....	41	3,727	9,151,939	701,529	16,581,433	30,797,372
Verdun.....	74	1,783	3,861,285	112,921	8,219,383	15,721,739
Victoriaville.....	56	3,054	6,470,493	181,205	11,117,417	21,546,727
Waterloo.....	20	776	1,810,933	88,471	3,099,230	6,107,996
Westmount.....	30	1,993	5,884,634	370,916	6,418,890	18,122,871
Ontario—						
Acton.....	20	1,023	2,648,744	294,897	6,368,405	10,822,122
Amherstburg.....	14	1,067	3,577,852	1,863,898	5,015,796	18,023,571
Arnprior.....	14	669	1,795,626	112,539	2,586,983	5,924,084
Aurora.....	15	681	1,734,995	80,460	4,525,524	7,426,923
Barrie.....	31	1,007	2,758,271	177,536	8,927,720	15,687,559
Belleville.....	64	3,441	10,359,988	2,220,530	17,267,674	45,610,366
Bowmanville.....	16	896	2,819,641	186,463	4,312,543	11,497,096
Brampton.....	34	1,259	3,463,409	222,986	5,762,528	12,125,029
Brantford.....	162	11,496	37,455,534	1,784,334	59,230,887	132,653,623
Brookville.....	40	1,314	3,363,757	243,807	6,890,602	13,957,099
Burlington.....	25	866	2,501,492	128,512	6,377,082	11,117,131
Caledonia.....	11	483	1,072,578	407,883	3,412,067	6,386,477
Chatham.....	82	4,107	13,561,834	946,337	68,936,650	102,487,820
Cobourg.....	30	957	2,702,799	211,838	4,467,698	10,357,543
Collingwood.....	19	1,103	3,086,841	122,162	3,367,752	7,710,388
Cornwall.....	55	6,923	18,943,525	3,787,676	29,048,947	71,004,675

For footnote, see end of table, p. 687.

11.—Statistics of Manufactures of Urban Centres, each with Factory Shipments¹ of \$5,000,000 or over and with Three or More Establishments 1953—continued

Province and Municipality	Estab-lish-ments	Em-ployees	Earnings	Cost of Fuel and Electricity	Cost at Plant of Materials Used	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
Ontario—concluded						
Dundas.....	36	1,516	4,836,551	262,593	5,273,290	12,914,694
Dunnville.....	21	1,188	2,728,652	141,718	5,527,325	9,297,896
Eastview.....	27	418	1,217,231	85,819	4,976,101	7,227,628
Elmira.....	22	600	1,675,816	180,447	4,242,441	7,381,583
Fort Erie.....	27	1,908	6,313,542	97,695	6,312,909	18,710,695
Fort William.....	60	4,333	14,909,533	2,577,708	26,850,555	67,742,167
Galt.....	96	6,854	19,634,682	875,720	30,487,564	65,770,345
Gananoque.....	19	925	2,660,680	242,280	4,849,424	9,652,894
Georgetown.....	17	1,164	3,504,477	204,006	6,701,837	12,190,331
Goderich.....	20	722	1,939,984	234,510	3,516,374	7,477,484
Guelph.....	116	6,222	17,767,387	1,044,679	32,422,335	63,605,582
Hamilton.....	566	60,451	201,515,979	22,408,131	385,515,852	824,407,315
Hanover.....	22	962	2,604,835	84,290	4,127,776	8,224,588
Hespeler.....	18	1,719	4,682,430	460,371	5,543,777	14,112,882
Ingersoll.....	23	1,297	3,602,358	243,114	9,408,797	15,613,652
Kingston.....	71	3,650	10,572,925	731,070	25,163,410	50,106,402
Kitchener.....	204	15,621	45,095,502	1,996,777	95,039,067	193,982,647
Leamington.....	18	1,119	3,312,904	347,079	12,714,396	27,033,037
Leaside.....	59	11,136	36,905,616	1,575,974	66,627,094	144,685,122
Lindsay.....	38	1,770	4,261,536	362,171	6,268,223	15,371,050
London.....	297	16,858	49,681,073	2,443,525	89,926,714	199,098,535
Long Branch.....	29	2,242	6,717,025	262,536	11,294,753	23,551,809
Merrittton.....	17	2,088	7,821,923	1,082,579	13,940,913	27,572,876
Midland.....	22	1,235	3,429,266	105,773	9,359,835	14,391,140
Milton.....	14	716	1,888,031	389,389	2,130,072	7,552,882
Mimico.....	33	653	2,025,896	170,007	3,060,968	7,298,334
Newmarket.....	23	996	2,695,175	152,207	4,868,473	10,870,839
New Toronto.....	52	7,274	26,173,029	2,016,523	83,340,725	156,528,551
Niagara Falls.....	85	7,021	23,603,219	7,041,632	43,487,470	111,167,258
North Bay.....	33	603	1,662,949	130,548	2,383,763	5,461,170
Orillia.....	60	2,183	5,869,675	352,704	6,225,278	16,166,078
Ottawa.....	288	10,466	29,663,123	1,917,322	45,683,141	103,001,769
Owen Sound.....	50	2,640	7,233,429	304,203	8,100,261	20,294,538
Paris.....	24	1,369	3,597,816	144,002	6,377,745	10,825,324
Pembroke.....	35	1,530	3,768,360	166,898	6,861,634	13,031,830
Perth.....	28	924	2,090,599	108,462	5,079,739	9,846,176
Peterborough.....	103	10,062	32,621,860	1,439,994	61,640,361	119,421,390
Port Arthur.....	69	3,016	10,068,138	1,812,355	21,615,074	46,967,678
Port Credit.....	18	1,279	3,858,626	513,155	22,576,163	36,081,430
Port Hope.....	27	1,060	3,592,314	254,397	4,305,421	12,131,423
Prescott.....	20	945	1,940,635	61,317	4,392,853	7,483,526
Preston.....	36	2,863	7,743,653	284,167	9,113,004	22,137,358
Renfrew.....	31	1,541	3,772,813	265,995	6,336,503	12,300,457
St. Catharines.....	112	12,545	41,343,163	2,195,027	65,771,626	142,193,177
St. Mary's.....	13	555	1,682,657	1,261,994	4,580,548	11,656,932
St. Thomas.....	50	2,385	6,662,360	378,879	9,801,244	23,806,239
Sarnia.....	51	8,220	30,791,081	13,936,684	124,294,962	213,783,060
Sault Ste. Marie.....	60	9,006	33,375,207	7,224,780	65,835,950	127,560,529
Simcoe.....	31	1,309	3,592,363	226,199	22,878,268	31,836,268
Smith's Falls.....	23	889	2,501,170	133,323	3,807,751	7,940,569
Stratford.....	70	3,622	9,866,086	433,356	16,136,857	30,364,579
Streetsville.....	13	421	1,246,601	163,366	4,812,071	7,509,723
Sudbury.....	56	1,123	3,221,655	320,214	8,056,968	15,141,606
Swansea.....	13	740	2,462,690	271,086	4,879,410	10,385,227
Thornold.....	24	2,733	11,013,040	3,324,332	22,954,692	45,579,113
Tillsonburg.....	29	981	2,185,075	249,147	10,131,649	13,757,944
Timmins.....	27	643	1,493,654	113,076	2,970,644	5,844,702
Toronto.....	3,781	154,251	478,086,271	18,968,416	980,873,073	1,875,747,249
Trenton.....	31	1,395	3,721,900	502,440	8,912,731	17,257,283
Wallaceburg.....	28	2,401	7,412,060	1,101,487	8,293,129	20,818,385
Waterloo.....	58	2,759	8,198,291	435,233	13,208,360	38,317,611
Welland.....	63	8,118	30,235,471	5,172,240	51,494,839	113,854,730
Weston.....	64	3,472	10,805,328	668,523	19,874,581	42,860,494
Windsor.....	338	37,514	140,481,193	7,559,592	402,209,586	682,273,319
Woodstock.....	57	4,273	12,153,112	505,157	29,502,679	52,765,577
Manitoba—						
Brandon.....	39	815	2,367,799	257,863	9,559,669	14,130,407
St. Boniface.....	91	4,511	13,963,131	1,128,044	103,964,841	134,377,531
St. Kirk.....	11	973	3,165,949	617,557	3,337,156	10,095,480
Transcona.....	7	2,647	8,582,430	316,689	14,793,392	25,766,894
Winnipeg.....	860	28,230	76,008,218	3,266,587	156,860,845	300,186,774

For footnote, see end of table, p. 687.

11.—Statistics of Manufactures of Urban Centres, each with Factory Shipments¹ of \$5,000,000 or over and with Three or More Establishments 1953—concluded

Province and Municipality	Estab- lish- ments	Em- ployees	Earnings	Cost of Fuel and Electricity	Cost at Plant of Materials Used	Selling Value of Factory Shipments ¹
	No.	No.	\$	\$	\$	\$
Saskatchewan—						
Moose Jaw.....	46	1,178	3,610,680	1,052,550	31,010,417	43,609,897
Prince Albert.....	33	991	2,809,194	201,006	12,724,703	20,102,395
Regina.....	132	3,162	9,945,708	1,604,048	45,258,052	71,866,016
Saskatoon.....	115	3,001	8,755,636	855,035	46,025,421	68,991,938
Alberta—						
Calgary.....	313	9,099	27,821,220	1,678,547	96,964,685	152,310,936
Edmonton.....	334	11,437	34,278,714	2,377,855	122,361,359	188,602,471
Lethbridge.....	51	1,125	3,037,710	201,263	7,393,172	14,987,354
Lloydminster.....	9	248	727,113	229,776	5,400,076	9,383,103
Medicine Hat.....	38	1,130	2,619,776	155,290	16,346,328	20,959,202
British Columbia—						
Kelowna.....	39	667	1,761,383	86,757	3,720,475	7,202,050
Mission City.....	21	447	1,068,844	76,360	3,410,482	5,342,937
Nelson.....	28	598	1,512,864	116,197	3,661,428	6,862,188
New Westminster.....	125	6,382	20,429,568	1,283,140	58,526,637	111,470,580
North Vancouver.....	58	2,205	8,430,582	365,325	11,116,092	28,955,571
Port Alberni.....	19	2,567	8,687,076	276,768	16,695,764	35,732,898
Port Moody.....	6	561	1,864,037	14,775	3,340,763	6,651,394
Prince George.....	139	1,384	4,207,499	360,918	11,435,010	18,832,234
Quesnel.....	111	983	2,587,353	231,852	5,108,714	10,452,579
Vancouver.....	1,316	33,822	108,896,725	5,448,266	255,906,780	448,591,543
Victoria.....	219	4,902	15,429,738	781,918	26,505,004	56,676,783

¹ In 1952 gross value of products was replaced by value of factory shipments; see text, pp. 624-625.

CHAPTER XVI.—CAPITAL EXPENDITURES AND CONSTRUCTION

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

This Chapter provides data on the capital expenditures made by all sectors of the Canadian economy on construction and on machinery and equipment together with summaries of other available statistics for the construction industry. Section 1 describes the purpose of capital expenditures and shows the amounts spent by each of the various industrial or economic sectors.* Section 2 brings together a number of summaries of related series on construction activity: value of work performed by type of structure, value of materials used, salaries and wages paid and numbers employed; contracts awarded and building permits issued; construction of dwelling units; and Government aid to house building.

Section 1.—Capital Expenditures on Construction and on Machinery and Equipment

One of the most important determinants of the level of economic activity within the nation at any time is the volume of investment spending being undertaken by business and by governments. Past experience shows that for the nation as a whole extensive changes may take place from year to year in the level of investment and, because of this variability, capital expenditures form one of the most dynamic factors affecting the level of employment and income in a country.

Capital expenditures are those outlays made to replace, modernize or expand the nation's stock of physical capital, represented by such things as factory buildings, mines, stores, theatres, hospitals, railways, telephone lines and power installations together with the machinery and equipment used to enable workers to produce with greater efficiency an increasing volume of goods and services. Also included in the stock of capital are government owned assets of a physical nature such as roads, canals, office buildings, and all housing whether rented or owner occupied. Defence construction is included but all other defence expenditures are excluded. Excluded also from capital expenditures are outlays for the accumulation of inventories and the acquisition cost of land.

Capital assets assist in providing goods and services over a period of years; some types of assets, such as motors, may have a useful life of a very few years while others, such as buildings or power installations, may continue in profitable use for fifty years or

* Information is given in greater detail in the Department of Trade and Commerce annual report, *Private and Public Investment in Canada*.

more. The creation of these capital assets requires the diversion of resources from production for current consumption to the production of capital goods which will be used in production for future consumption. Thus the rate of investment spending reflects the extent to which a growing nation is providing for the future or is becoming industrialized; it also reflects the opinion of businessmen as to future prospects and of governments as to future demands for their services.

It will be noted from Table 1 that since 1927 there have been two periods when capital spending accounted for a substantial portion of the gross national product. The high rate of growth in the eight years 1948 to 1955 was paralleled in the late 1920's but in that period capital outlays exceeded 20 p.c. of the gross national product for three years only. Investment spending at this level, while indicative of the longterm growth of the country, is important also in the year in which it occurs in giving employment and income to those engaged in the provision of capital facilities.

1.—Capital Expenditures in Canada 1927-56

NOTE.—Actual expenditures 1927-54; preliminary actual 1955; intentions 1956.

Year	Capital Expenditures	P.C. of Gross National Product	Year	Capital Expenditures	P.C. of Gross National Product
	\$'000,000			\$'000,000	
1927.....	1,087	19.2	1942.....	1,542	14.6
1928.....	1,296	21.2	1943.....	1,485	13.3
1929.....	1,518	24.6	1944.....	1,309	11.0
1930.....	1,287	23.2	1945.....	1,284	10.8
1931.....	881	19.3	1946.....	1,703	14.2
1932.....	491	13.0	1947.....	2,489	18.1
1933.....	327	9.2	1948.....	3,175	20.3
1934.....	416	10.3	1949 ¹	3,502	21.3
1935.....	505	11.6	1950.....	3,815	21.0
1936.....	590	12.6	1951.....	4,577	21.3
1937.....	828	15.5	1952.....	5,285	22.7
1938.....	773	14.8	1953.....	5,841	23.9
1939.....	765	13.4	1954.....	5,620	23.3
1940.....	1,048	15.3	1955.....	6,230	23.5
1941.....	1,463	17.2	1956.....	7,529	..

¹ Newfoundland included from 1949.

The stepped-up rate of capital spending that occurred in 1955 and the further acceleration expected in 1956 represents the third distinct period of rapid buildup of capital facilities in the postwar years. Since somewhat different factors stimulated the capital expansion in each of these periods the emphasis tended to be on different sectors of activity. All periods however have been characterized by a resurgence of capital spending in the commodity producing industries. In 1947 and 1948 the most important stimulus to capital spending came in the consumer goods industries and in such export industries as agriculture and forest products. The Korean period emphasized investment in the defence and strategic materials industries such as minerals and fuel and power. The current expansion is being led by the export industries, principally those related to forest and mineral products, with strong support from the fuel and power and transportation industries.

Without exception all major sectors of the economy expect either to maintain or to increase their capital spending in 1956. Of the total program 69 p.c. is expected to be spent for construction work and the remainder for purchases of machinery and equipment. In construction it is estimated that nearly all the increase will be accounted for by industrial building and by construction of an engineering type. Such projects as the St. Lawrence Seaway and the gas pipelines eastward and westward from Alberta will add greatly to the volume of engineering construction. Residential building is expected to remain unchanged from the 1955 figure.

2.—Summary of Capital Expenditures and Repair and Maintenance Expenditures by Economic Sector 1954-56

NOTE.—Actual expenditures 1954; preliminary actual 1955; intentions 1956.

(Millions of Dollars)

Type of Enterprise and Year	Capital			Repair			Capital and Repair		
	Con- struc- tion	Ma- chinery and Equip- ment	Total	Con- struc- tion	Ma- chinery and Equip- ment	Total	Con- struc- tion	Ma- chinery and Equip- ment	Total
Agriculture and fishing—									
1954.....	78	310	388	69	118	187	147	428	575
1955.....	80	344	424	72	121	193	152	465	617
1956.....	83	344	427	76	123	199	159	467	626
Forestry—									
1954.....	26	20	46	20	26	46	46	46	92
1955.....	35	27	62	19	25	44	54	52	106
1956.....	36	24	60	19	23	42	55	47	102
Mining, quarrying and oil wells—									
1954.....	184	94	278	16	46	62	200	140	340
1955.....	220	81	301	17	48	65	237	129	366
1956.....	300	124	424	18	48	66	318	172	490
Manufacturing—									
1954.....	288	534	822	98	391	489	386	925	1,311
1955.....	345	594	939	96	405	501	441	999	1,440
1956.....	462	842	1,304	97	404	501	559	1,246	1,805
Utilities—									
1954.....	610	514	1,124	261	345	606	871	859	1,730
1955.....	600	441	1,041	257	338	595	857	779	1,636
1956.....	1,002	580	1,582	315	350	665	1,317	930	2,247
Construction—									
1954.....	9	88	97	3	70	73	12	158	170
1955.....	11	96	107	3	73	76	14	169	183
1956.....	10	76	86	3	71	74	13	147	160
Housing—									
1954.....	1,178	—	1,178	222	—	222	1,400	—	1,400
1955.....	1,496	—	1,496	238	—	238	1,734	—	1,734
1956.....	1,574	—	1,574	252	—	252	1,826	—	1,826
Trade, wholesale and retail—									
1954.....	204	164	368	35	36	71	239	200	439
1955.....	193	157	350	35	30	65	228	187	415
1956.....	214	156	370	33	30	63	247	186	433
Finance, insurance and real estate—									
1954.....	90	17	107	7	3	10	97	20	117
1955.....	84	18	102	8	3	11	92	21	113
1956.....	92	18	110	6	3	9	98	21	119
Commercial services—									
1954.....	25	82	107	12	40	52	37	122	159
1955.....	33	93	126	12	40	52	45	133	178
1956.....	46	90	136	10	41	51	56	131	187
Institutional services—									
1954.....	296	41	337	35	7	42	331	48	379
1955.....	370	39	409	39	7	46	409	46	455
1956.....	402	45	447	42	7	49	444	52	496
Government departments—									
1954.....	692	76	768	236	33	269	928	109	1,037
1955.....	806	67	873	219	34	253	1,025	101	1,126
1956.....	941	68	1,009	235	37	272	1,176	105	1,281
Totals—									
1954.....	3,680	1,940	5,620	1,014	1,115	2,129	4,694	3,055	7,749
1955.....	4,273	1,957	6,230	1,015	1,124	2,139	5,288	3,081	8,369
1956.....	5,162	2,367	7,529	1,106	1,137	2,243	6,268	3,504	9,772

Details of some of the above economic sectors are given in Table 3. The construction industry and housing are dealt with in Section 2 of this Chapter.

3.—Details of Capital Expenditures and Repair and Maintenance Expenditures for Certain Economic Sectors 1954-56

NOTE.—Actual expenditures 1954; preliminary actual 1955; intentions 1956.

(Millions of Dollars)

Type of Enterprise and Year	Capital			Repair			Capital and Repair		
	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total
MANUFACTURING									
Food and beverages—									
1954.....	38.6	65.7	104.3	13.2	41.2	54.4	51.8	106.9	158.7
1955.....	37.6	64.5	102.1	12.7	39.9	52.6	50.3	104.4	154.7
1956.....	31.6	60.9	92.5	11.3	37.2	48.5	42.9	98.1	141.0
Tobacco and tobacco products—									
1954.....	0.6	2.5	3.1	0.7	1.7	2.4	1.3	4.2	5.5
1955.....	1.5	2.3	3.8	0.9	1.8	2.7	2.4	4.1	6.5
1956.....	1.7	2.9	4.6	0.7	0.9	1.6	2.4	3.8	6.2
Rubber products—									
1954.....	4.6	11.1	15.7	1.0	5.9	6.9	5.6	17.0	22.6
1955.....	3.3	12.9	16.2	0.9	6.0	6.9	4.2	18.9	23.1
1956.....	3.2	15.2	18.4	0.9	6.4	7.3	4.1	21.6	25.7
Leather products—									
1954.....	0.5	1.8	2.3	0.6	2.0	2.6	1.1	3.8	4.9
1955.....	0.3	1.6	1.9	0.6	2.2	2.8	0.9	3.8	4.7
1956.....	1.1	1.6	2.7	0.6	2.1	2.7	1.7	3.7	5.4
Textile products—									
1954.....	7.5	21.0	28.5	2.7	14.3	17.0	10.2	35.3	45.5
1955.....	5.3	21.6	26.9	2.9	16.3	19.2	8.2	37.9	46.1
1956.....	8.9	20.7	29.6	3.0	16.4	19.4	11.9	37.1	49.0
Clothing—									
1954.....	2.2	7.6	9.8	1.3	4.0	5.3	3.5	11.6	15.1
1955.....	1.8	6.7	8.5	1.2	4.1	5.3	3.0	10.8	13.8
1956.....	1.2	5.1	6.3	1.0	3.9	4.9	2.2	9.0	11.2
Wood products—									
1954.....	8.4	24.5	32.9	6.5	24.1	30.6	14.9	48.6	63.5
1955.....	10.0	25.6	35.6	7.0	24.0	31.0	17.0	49.6	66.6
1956.....	9.7	21.2	30.9	6.2	22.2	28.4	15.9	43.4	59.3
Paper products—									
1954.....	21.6	65.7	87.3	8.2	75.1	83.3	29.8	140.8	170.6
1955.....	32.7	105.0	137.7	9.4	81.3	90.7	42.1	186.3	228.4
1956.....	66.8	199.6	266.4	9.5	84.4	93.9	76.3	284.0	360.3
Printing, publishing and allied industries—									
1954.....	11.7	19.7	31.4	2.4	4.9	7.3	14.1	24.6	38.7
1955.....	6.6	18.8	25.4	1.9	4.6	6.5	8.5	23.4	31.9
1956.....	13.8	17.6	31.4	1.5	4.3	5.8	15.3	21.9	37.2
Iron and steel products—									
1954.....	22.0	66.4	88.4	12.6	64.0	76.6	34.6	130.4	165.0
1955.....	27.4	65.3	92.7	12.8	73.0	85.8	40.2	138.3	178.5
1956.....	40.6	89.2	129.8	16.2	66.8	83.0	56.8	156.0	212.8
Transportation equipment—									
1954.....	20.9	44.3	65.2	10.9	30.0	40.9	31.8	74.3	106.1
1955.....	19.8	36.5	56.3	9.5	27.3	36.8	29.3	63.8	93.1
1956.....	19.2	49.0	68.2	9.5	27.8	37.3	28.7	76.8	105.5

3.—Details of Capital Expenditures and Repair and Maintenance Expenditures for Certain Economic Sectors 1954-56—continued

Type of Enterprise and Year	Capital			Repair			Capital and Repair		
	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total
MANUFACTURING—concluded									
Non-ferrous metal products—									
1954.....	20.3	33.3	53.6	8.7	40.1	48.8	29.0	73.4	102.4
1955.....	37.6	46.0	83.6	8.7	45.6	54.3	46.3	91.6	137.9
1956.....	56.2	57.1	113.3	8.9	48.6	57.5	65.1	105.7	170.8
Electrical apparatus and supplies—									
1954.....	11.7	20.0	31.7	3.1	13.6	16.7	14.8	33.6	48.4
1955.....	10.3	21.2	31.5	2.6	12.9	15.5	12.9	34.1	47.0
1956.....	10.7	25.7	36.4	3.1	14.2	17.3	13.8	39.9	53.7
Non-metallic mineral products—									
1954.....	19.6	23.6	43.2	2.8	23.8	26.6	22.4	47.4	69.8
1955.....	22.6	23.3	45.9	2.8	22.9	25.7	25.4	46.2	71.6
1956.....	28.3	46.2	74.5	2.7	25.0	27.7	31.0	71.2	102.2
Products of petroleum and coal—									
1954.....	79.6	14.0	93.6	15.7	11.5	27.2	95.3	25.5	120.8
1955.....	96.7	11.2	107.9	16.1	10.0	26.1	112.8	21.2	134.0
1956.....	95.2	16.9	112.1	15.5	9.6	25.1	110.7	26.5	137.2
Chemical products—									
1954.....	15.1	24.7	39.8	6.2	31.4	37.6	21.3	56.1	77.4
1955.....	26.9	33.6	60.5	5.0	30.2	35.2	31.9	63.8	95.7
1956.....	71.0	94.2	165.2	5.3	31.4	36.7	76.3	125.6	201.9
Miscellaneous—									
1954.....	2.7	4.5	7.2	1.0	3.3	4.3	3.7	7.8	11.5
1955.....	4.6	6.6	11.2	1.1	2.9	4.0	5.7	9.5	15.2
1956.....	2.6	5.9	8.5	1.1	2.9	4.0	3.7	8.8	12.5
Capital items charged to operating expenses—									
1954.....	—	84.1	84.1	—	—	—	—	84.1	84.1
1955.....	—	90.8	90.8	—	—	—	—	90.8	90.8
1956.....	—	113.3	113.3	—	—	—	—	113.3	113.3
Totals, Manufacturing—									
1954.....	287.6	534.5	822.1	97.6	390.9	488.5	385.2	925.4	1,310.6
1955.....	345.0	593.5	938.5	96.1	405.0	501.1	441.1	998.5	1,439.6
1956.....	461.8	842.3	1,304.1	97.0	404.1	501.1	558.8	1,246.4	1,805.2
UTILITIES									
Central electric stations—									
1954.....	287.9	115.9	403.8	29.9	21.6	51.5	317.8	137.5	455.3
1955.....	298.6	97.6	396.2	33.6	19.5	53.1	332.2	117.1	449.3
1956.....	457.3	122.2	579.5	34.3	20.5	54.8	491.6	142.7	634.3
Gas distribution—									
1954.....	13.9	1.9	15.8	2.4	1.6	4.0	16.3	3.5	19.8
1955.....	15.4	2.2	17.6	2.8	2.0	4.8	18.2	4.2	22.4
1956.....	34.6	3.5	38.1	3.1	2.1	5.2	37.7	5.6	43.3
Steam railways and telegraphs—									
1954.....	70.3	183.8	254.1	178.9	174.9	353.8	249.2	358.7	607.9
1955.....	67.3	109.3	176.6	174.4	163.8	338.2	241.7	273.1	514.8
1956.....	85.7	206.7	292.4	226.1	167.9	394.0	311.8	374.6	686.4
Electric railways—									
1954.....	7.9	7.0	14.9	6.0	14.9	20.9	13.9	21.9	35.8
1955.....	6.4	10.0	16.4	5.1	14.9	20.0	11.5	24.9	36.4
1956.....	9.6	13.1	22.7	6.0	15.0	21.0	15.6	28.1	43.7

3.—Details of Capital Expenditures and Repair and Maintenance Expenditures for Certain Economic Sectors 1954-56—continued

Type of Enterprise and Year	Capital			Repair			Capital and Repair		
	Con- struc- tion	Ma- chinery and Equip- ment	Total	Con- struc- tion	Ma- chinery and Equip- ment	Total	Con- struc- tion	Ma- chinery and Equip- ment	Total
UTILITIES—concluded									
Water transport—									
1954.....	11.3	28.5	39.8	2.8	17.1	19.9	14.1	45.6	59.7
1955.....	17.6	23.5	41.1	2.6	13.9	16.5	20.2	37.4	57.6
1956.....	85.5	19.4	104.9	4.1	14.1	18.2	89.6	33.5	123.1
Motor carriers—									
1954.....	4.6	23.5	28.1	1.0	37.3	38.3	5.6	60.8	66.4
1955.....	3.5	31.6	35.1	1.1	36.7	37.8	4.6	68.3	72.9
1956.....	5.7	21.8	27.5	1.1	36.9	38.0	6.8	58.7	65.5
Grain elevators—									
1954.....	10.6	3.0	13.6	5.0	2.2	7.2	15.6	5.2	20.8
1955.....	8.3	2.8	11.1	4.4	1.9	6.3	12.7	4.7	17.4
1956.....	8.0	3.4	11.4	3.7	1.7	5.4	11.7	5.1	16.8
Telephones—									
1954.....	76.0	105.0	181.0	17.5	50.4	67.9	93.5	155.4	248.9
1955.....	82.1	120.8	202.9	18.8	57.7	76.5	100.9	178.5	279.4
1956.....	93.5	143.0	236.5	20.6	62.7	83.3	114.1	205.7	319.8
Broadcasting—									
1954.....	4.8	9.4	14.2	0.3	1.0	1.3	5.1	10.4	15.5
1955.....	3.8	5.8	9.6	0.3	1.5	1.8	4.1	7.3	11.4
1956.....	3.9	6.5	10.4	0.6	1.1	1.7	4.5	7.6	12.1
Municipal waterworks—									
1954.....	57.0	2.4	59.4	12.2	1.3	13.5	69.2	3.7	72.9
1955.....	50.5	1.5	52.0	10.8	1.7	12.5	61.3	3.2	64.5
1956.....	67.8	2.2	70.0	12.1	1.4	13.5	79.9	3.6	83.5
Other utilities— ¹									
1954.....	65.9	22.2	88.1	4.9	22.3	27.2	70.8	44.5	115.3
1955.....	46.8	25.6	72.4	3.1	24.7	27.8	49.9	50.3	100.2
1956.....	150.2	25.8	176.0	3.4	26.7	30.1	153.6	52.5	206.1
Capital items charged to operating expenses—									
1954.....	—	11.0	11.0	—	—	—	—	11.0	11.0
1955.....	—	10.0	10.0	—	—	—	—	10.0	10.0
1956.....	—	11.9	11.9	—	—	—	—	11.9	11.9
Totals, Utilities—									
1954.....	610.2	513.6	1,123.8	260.9	344.6	605.5	871.1	858.2	1,729.3
1955.....	600.3	440.7	1,041.0	257.0	338.3	595.3	857.3	779.0	1,636.3
1956.....	1,001.8	579.5	1,581.3	315.1	350.1	665.2	1,316.9	929.6	2,246.5
TRADE									
Wholesale—									
1954.....	33.4	23.4	56.8	4.3	7.9	12.2	37.7	31.3	69.0
1955.....	19.2	25.1	44.3	4.6	6.1	10.7	23.8	31.2	55.0
1956.....	39.0	26.4	65.4	5.4	5.3	10.7	44.4	31.7	76.1
Chain stores—									
1954.....	32.3	27.3	59.6	4.4	3.7	8.1	36.7	31.0	67.7
1955.....	33.8	30.2	64.0	4.8	3.2	8.0	38.6	33.4	72.0
1956.....	36.0	26.7	62.7	3.8	3.3	7.1	39.8	30.0	69.8
Independent stores—									
1954.....	79.1	65.5	144.6	14.7	13.0	27.7	93.8	78.5	172.3
1955.....	84.3	62.5	146.8	14.0	10.3	24.3	98.3	72.8	171.1
1956.....	81.3	57.1	138.4	12.6	10.6	23.2	93.9	67.7	161.6

¹ Includes air transport, warehousing and oil and gas pipelines.

3.—Details of Capital Expenditures and Repair and Maintenance Expenditures for Certain Economic Sectors 1954-56—concluded

Type of Enterprise and Year	Capital			Repair			Capital and Repair		
	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total
TRADE—concluded									
Department stores—									
1954.....	27.9	11.5	39.4	4.1	2.8	6.9	32.0	14.3	46.3
1955.....	19.7	5.7	25.4	3.7	2.6	6.3	23.4	8.3	31.7
1956.....	11.7	4.6	16.3	3.7	2.7	6.4	15.4	7.3	22.7
Automotive trade—									
1954.....	31.4	21.1	52.5	7.7	9.1	16.8	39.1	30.2	69.3
1955.....	36.4	19.7	56.1	7.6	7.3	14.9	44.0	27.0	71.0
1956.....	45.5	27.3	72.8	7.9	8.0	15.9	53.4	35.3	88.7
Capital items charged to operating expenses—									
1954.....	—	14.8	14.8	—	—	—	—	14.8	14.8
1955.....	—	13.8	13.8	—	—	—	—	13.8	13.8
1956.....	—	13.8	13.8	—	—	—	—	13.8	13.8
Totals, Trade—									
1954.....	204.1	163.6	367.7	35.2	36.5	71.7	239.3	200.1	439.4
1955.....	193.4	157.0	350.4	34.7	29.5	64.2	228.1	186.5	414.6
1956.....	213.5	155.9	369.4	33.4	29.9	63.3	246.9	185.8	432.7
INSTITUTIONAL SERVICES									
Churches—									
1954.....	30.6	3.2	33.8	6.0	0.8	6.8	36.6	4.0	40.6
1955.....	33.7	3.1	36.8	6.3	0.6	6.9	40.0	3.7	43.7
1956.....	43.1	3.3	46.4	5.4	0.7	6.1	48.5	4.0	52.5
Universities—									
1954.....	16.6	3.4	20.0	2.7	0.4	3.1	19.3	3.8	23.1
1955.....	22.8	3.6	26.4	3.1	0.4	3.5	25.9	4.0	29.9
1956.....	31.2	3.5	34.7	2.9	0.3	3.2	34.1	3.8	37.9
Schools—									
1954.....	135.3	18.8	154.1	15.8	2.6	18.4	151.1	21.4	172.5
1955.....	172.1	17.0	189.1	18.3	2.7	21.0	190.4	19.7	210.1
1956.....	183.6	19.0	202.6	18.5	2.7	21.2	202.1	21.7	223.8
Hospitals—									
1954.....	106.4	15.2	121.6	9.3	2.8	12.1	115.7	18.0	133.7
1955.....	132.1	14.5	146.6	10.3	3.5	13.8	142.4	18.0	160.4
1956.....	131.5	19.1	150.6	14.3	3.4	17.7	145.8	22.5	168.3
Other institutional services— ¹									
1954.....	7.6	0.2	7.8	0.8	—	0.8	8.4	0.2	8.6
1955.....	9.0	0.8	9.8	1.2	—	1.2	10.2	0.8	11.0
1956.....	12.8	0.4	13.2	1.4	—	1.4	14.2	0.4	14.6
Totals, Institutional Services—									
1954.....	296.5	40.8	337.3	34.6	6.6	41.2	331.1	47.4	378.5
1955.....	369.7	39.0	408.7	39.2	7.2	46.4	408.9	46.2	455.1
1956.....	402.2	45.3	447.5	42.5	7.1	49.6	444.7	52.4	497.1

¹ Includes privately operated social and welfare institutions.

A summary of the capital expenditures in each province for the years 1954-56 is given in Table 4. Such expenditures represent gross additions to the capital stock of the province and are a reflection of economic activity in that area, but the actual production of these assets may generate its major employment in income-giving effects in other regions. For example the spending of millions of dollars on oil refineries and pipelines in western Canada means activity in the steel industries of Ontario as well as construction activity in the Prairie Provinces.

4.—Summary of Capital Expenditures and Repair and Maintenance Expenditures by Province 1954-56

NOTE.—Actual expenditures 1954; preliminary actual 1955; intentions 1956.

(Millions of Dollars)

Province and Year	Capital			Repair			Capital and Repair		
	Con- struc- tion	Ma- chinery and Equip- ment	Total	Con- struc- tion	Ma- chinery and Equip- ment	Total	Con- struc- tion	Ma- chinery and Equip- ment	Total
Newfoundland—									
1954.....	50	23	73	18	14	32	68	37	105
1955.....	61	23	84	18	11	29	79	34	113
1956.....	68	24	92	19	12	31	87	36	123
Prince Edward Island—									
1954.....	12	7	19	4	4	8	16	11	27
1955.....	13	7	20	6	4	10	19	11	30
1956.....	13	8	21	6	4	10	19	12	31
Nova Scotia—									
1954.....	100	56	156	35	32	67	135	88	223
1955.....	107	49	156	33	31	64	140	80	220
1956.....	115	61	176	35	30	65	150	91	241
New Brunswick—									
1954.....	78	41	119	32	30	62	110	71	181
1955.....	114	40	154	35	30	65	149	70	219
1956.....	141	50	191	39	31	70	180	81	261
Quebec—									
1954.....	938	424	1,362	222	286	508	1,160	710	1,870
1955.....	1,116	481	1,597	228	284	512	1,344	765	2,109
1956.....	1,240	522	1,762	251	289	540	1,491	811	2,302
Ontario—									
1954.....	1,317	772	2,089	383	432	815	1,700	1,204	2,904
1955.....	1,470	738	2,208	372	450	822	1,842	1,188	3,030
1956.....	1,768	938	2,706	404	451	855	2,172	1,389	3,561
Manitoba—									
1954.....	176	94	270	61	60	121	237	154	391
1955.....	191	106	297	64	61	125	255	167	422
1956.....	234	106	340	71	63	134	305	169	474
Saskatchewan—									
1954.....	227	150	377	67	62	129	294	212	506
1955.....	216	134	350	71	62	133	287	196	483
1956.....	221	151	372	79	63	142	300	214	514
Alberta—									
1954.....	437	190	627	93	87	180	530	277	807
1955.....	511	189	680	88	78	166	599	247	846
1956.....	628	206	834	96	81	177	724	287	1,011
British Columbia— ¹									
1954.....	351	182	533	99	108	207	450	290	740
1955.....	474	209	683	99	114	213	573	323	896
1956.....	733	301	1,034	106	113	219	839	414	1,253
Canada— ²									
1954.....	3,686	1,939	5,625	1,014	1,115	2,129	4,700	3,054	7,754
1955.....	4,273	1,956	6,229	1,014	1,125	2,139	5,287	3,081	8,368
1956.....	5,161	2,367	7,528	1,106	1,137	2,243	6,267	3,504	9,771

¹ Includes the Yukon and Northwest Territories.
Table 2 are caused by minor adjustments and rounding.² Slight differences between these totals and those of

Section 2.—The Construction Industry

Subsection 1.—Value of Construction Work Performed

Statistics of the construction industry are based largely on information received at the same time and from the same sources as the data on capital expenditures which appear in Section 1.* The data represent the estimated total value of all new and repair construction. The slight differences between these figures and the corresponding figures of Section 1 are accounted for by rounding and minor revisions.

The intended construction program in Canada for 1956, including all sectors of the Canadian economy—business, institutions, government and housing—is estimated at \$6,271,000,000, a figure considerably above the record set in 1955. The volume of new construction carried out in 1954 increased 1 p.c. over 1953 and preliminary estimates for 1955 show a 12 p.c. rise over 1954, bringing the volume of construction to a new high in postwar years. Repair construction expenditures increased 5 p.c. from 1953 to 1954 but decreased 4 p.c. in 1955.

The importance of the construction industry in the economy of the country is illustrated by the fact that it continues to account for more than 18 p.c. of the gross national product. Table 5 shows construction, both new and repair, in constant as well as current dollars.

* An explanation of sources and methods is given in the 1955 Year Book, p. 727, and DBS annual report *Construction in Canada*.

5.—Value of Construction Work Performed, Current and Constant (1949) Dollars 1947-56

NOTE.—Actual 1947-54; preliminary 1955; intentions 1956.

(Millions of Dollars)

Year	New Construction		Repair and Maintenance Construction		Total Construction		Total Construction as P.C. of Gross National Product	
	Current	Constant	Current	Constant	Current	Constant	Current	Constant
1947.....	1,424	1,681	592	696	2,016	2,377	14.6	15.4
1948.....	1,877	1,947	694	720	2,571	2,667	16.5	17.0
1949 ¹	2,124	2,124	732	732	2,856	2,856	17.3	17.5
1950.....	2,366	2,247	766	727	3,132	2,974	17.2	17.2
1951.....	2,734	2,308	927	783	3,661	3,091	17.0	16.9
1952.....	3,282	2,616	916	730	4,198	3,346	18.0	17.1
1953.....	3,666	2,824	974	749	4,640	3,573	19.0	17.6
1954.....	3,700	2,852	1,023	787	4,723	3,639	19.6	18.5
1955.....	4,274	3,200	1,012	755	5,286	3,955	19.9	18.4
1956.....	5,161	..	1,110	..	6,271	..	..	..

¹ Newfoundland included from 1949.

6.—Value of Construction Work Performed by Contractors and Others 1953-56

NOTE.—Actual 1953 and 1954; preliminary 1955; intentions 1956.

(Millions of Dollars)

Item	1953	1954	1955	1956
Contract Construction	3,358	3,382	4,007	4,798
New.....	2,995	3,011	3,598	4,359
Repair.....	363	371	409	439
Other Construction¹	1,231	1,341	1,279	1,473
New.....	670	689	676	802
Repair.....	611	652	603	671
Totals, Construction	4,640	4,723	5,286	6,271
New.....	3,666	3,700	4,274	5,161
Repair.....	974	1,023	1,012	1,110

¹ Work done by the labour forces of utilities, manufacturing, mining and logging firms and government departments, home-owner builders and other persons or firms not primarily engaged in the construction industry.

Most of the increase in construction in 1956 is expected to occur in the engineering category as will be seen from the figures of Table 7. The largest advances will be in gas and oil facilities which are expected to show an increase of \$149,000,000 and in electric power construction which will be up by \$131,000,000. However all the engineering categories are set at higher amounts for 1956.

In building construction, industrial building is expected to register the greatest increase; that category is estimated at \$554,000,000 in 1956 as compared with an estimated \$409,000,000 in 1955. All other building categories also show substantial gains and housing continues to account for about 30 p.c. of total construction—29.6 p.c. in 1954, 32.8 p.c. in 1955 and 29.1 p.c. in 1956.

7.—Value of Construction Work Performed by Principal Type 1953-56

NOTE.—Actual 1953 and 1954; preliminary 1955; intentions 1956.

(Millions of Dollars)

Type of Construction	1953		1954		1955		1956	
	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total
Building Construction	2,812	60.6	2,914	61.7	3,374	63.8	3,746	59.7
Residential.....	1,297	28.0	1,400	29.6	1,734	32.8	1,826	29.1
Industrial.....	402	8.7	364	7.7	409	7.7	554	8.8
Commercial.....	502	10.8	546	11.6	550	10.0	600	9.6
Institutional.....	343	7.4	377	8.0	461	8.7	509	8.1
Other.....	268	5.8	227	4.8	240	4.6	257	4.1
Engineering Construction	1,828	39.4	1,809	38.3	1,912	36.2	2,525	40.3
Marine.....	76	1.6	72	1.5	77	1.5	137	2.2
Road, highway and aerodrome.....	457	9.9	473	10.0	508	9.6	596	9.5
Waterworks and sewage.....	135	2.9	183	3.9	182	3.4	209	3.3
Dams and irrigation.....	66	1.4	33	0.7	30	0.6	59	1.0
Electric power.....	338	7.3	322	6.8	328	6.2	459	7.3
Railway, telephone and telegraph.....	317	6.8	295	6.3	311	5.9	386	6.2
Gas and oil facilities.....	253	5.5	270	5.7	310	5.9	459	7.3
Other.....	186	4.0	161	3.4	166	3.1	220	3.5
Totals, Construction	4,640	100.0	4,723	100.0	5,286	100.0	6,271	100.0

Changes in the pattern of the construction program showing where shifts within the program have occurred from year to year are given in Table 8.

8.—Dollar Change in Value of Construction Work Performed by Type of Structure 1954 to 1955 and 1955 to 1956

Type	Change 1954 to 1955	Change 1955 to 1956	Type	Change 1954 to 1955	Change 1955 to 1956
	\$'000,000	\$'000,000		\$'000,000	\$'000,000
Building Construction			Engineering Construction—concl.		
Residential	334	92	Road, Highway and Aerodrome		
Dwellings, single, double, du- plexes and apartments.....	334	92	—concl.		
Industrial	44	145	Dirt, clay or other streets, roads, parking lots, etc.....	7	12
Factories, plants, workshops....	47	112	Grading, scraping, oiling, filling..	1	19
Mine and mine mill buildings....	2	25	Sidewalks, paths.....	-1	0
Railway stations, offices, road- way buildings.....	-1	4	Aerodromes, landing fields, run- ways, tarmac.....	0	1
Railway shops, engine houses, water and fuel stations.....	-4	3	Waterworks and Sewage Systems	-1	27
Commercial	-17	70	Tile drains, drainage ditches, storm sewers.....	1	3
Warehouses, storehouses, refrig- erated storage, etc.....	-12	18	Watermains, hydrants and serv- ices.....	-2	11
Grain elevators.....	-4	2	Sewage systems and connections..	0	4
Hotels, clubs, restaurants, cafe- terias, tourist cabins.....	-1	12	Pumping stations, water.....	1	10
Office buildings.....	-6	27	Water storage tanks.....	-1	-1
Stores, retail and wholesale....	4	-3	Dams and Irrigation	-3	30
Garages and service stations.....	3	10	Dams and reservoirs.....	-5	29
Theatres, arenas, amusement and recreational buildings.....	-2	5	Irrigation and land reclamation projects.....	1	1
Laundries and dry cleaning es- tablishments.....	1	-1	Electric Power	7	130
Institutional	85	48	Electric power, generating plants, including water conveying and controlling structures.....	-1	87
Schools and other educational buildings.....	49	20	Electric transformer stations....	7	10
Churches and other religious buildings.....	3	11	Power transmission and distri- bution lines, trolley wires.....	0	33
Hospitals, sanatoria, clinics, first- aid stations, etc.....	25	4	Streetlighting.....	0	1
Other institutional buildings.....	8	14	Railway, Telephone and Tele- graph	16	76
Other Building Construction ...	13	17	Railway tracks and roadbed....	9	61
Farm buildings (excluding dwell- ings).....	5	6	Signals and interlockers.....	-3	2
Broadcasting, radio and televi- sion, relay and booster stations, telephone exchanges.....	0	4	Telegraph and telephone lines, underground and marine cables	9	12
Aeroplane hangars.....	-1	4	Gas and Oil Facilities	40	149
Passenger terminals, bus, boat or air.....	0	0	Gas mains and services.....	7	17
Armouries, barracks, drill halls, etc.....	1	5	Pumping stations, oil.....	-5	0
Bunkhouses, dormitories, cook- eries, residence buildings.....	9	-2	Pumping stations, gas.....	-1	0
Miscellaneous building construc- tion.....	0	1	Oil storage tanks.....	0	2
Totals, Building Construction ...	460	373	Gas storage tanks.....	-2	0
Engineering Construction			Oil pipelines.....	-31	-2
Marine	5	60	Gas pipelines.....	8	106
Docks, wharves, piers, break- waters.....	-4	16	Oil wells.....	30	23
Retaining walls, embankments, riprapping.....	0	0	Gas wells.....	8	7
Canals and waterways.....	5	28	Oil-refinery processing units.....	27	-10
Dredging and pile driving.....	3	16	Natural gas cleaning plants.....	-1	5
Dyke construction.....	0	0	Other Engineering Construction	5	54
Logging booms.....	3	-1	Bridges, trestles, culverts, over- passes, viaducts.....	7	28
Other marine construction.....	-2	1	Tunnels and subways.....	-4	1
Road, Highway and Aerodrome	35	88	Incinerators.....	-1	0
Hard surfaced or paved streets, highways, parking lots, etc....	16	36	Park systems, landscaping, sod- ding, etc.....	-3	0
Gravel or stone streets, high- ways, roads, parking lots, etc..	12	21	Swimming pools, tennis courts, outdoor recreational facilities..	-1	0
			Mineshafts and other below sur- face workings.....	3	22
			Fences, snowsheds, signs, guard- rails.....	-1	2
			Miscellaneous engineering con- struction.....	5	0
			Totals, Engineering Construc- tion	102	613
			Totals, Construction	562	985

Table 9 gives estimates of total expenditures in Canada on each type of construction for which information is available. It contains the detailed data from which Tables 7 and 8 are derived.

9.—Value of Construction Work Performed by Type of Structure 1954-56

NOTE.—Actual 1954; preliminary 1955; intentions 1956. Actual data for 1953 have not been published in the Canada Year Book but are available on request.

Type	1954			1955			1956		
	New	Repair	Total	New	Repair	Total	New	Repair	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Building Construction									
Residential	1,178,000	221,900	1,399,900	1,495,700	238,000	1,733,700	1,573,500	252,300	1,825,800
Dwellings, single, double, duplexes and apartments	1,178,000	221,900	1,399,900	1,495,700	238,000	1,733,700	1,573,500	252,300	1,825,800
Industrial	262,405	102,071	364,476	304,880	104,095	408,975	443,473	110,143	553,616
Factories, plants, work-shops, food canneries...	223,788	77,550	301,338	270,534	78,060	348,594	380,326	80,443	460,769
Mine and mine mill buildings.....	25,275	6,355	31,630	26,481	7,482	33,963	51,535	7,873	59,408
Railway stations, offices, roadway buildings.....	7,611	9,459	17,070	4,373	11,234	15,607	6,863	12,452	19,315
Railway shops, engine houses, water and fuel stations.....	5,731	8,707	14,438	3,492	7,319	10,811	4,749	9,375	14,124
Commercial	462,746	83,593	546,339	450,402	79,346	529,748	522,405	77,831	600,236
Warehouses, storehouses, refrigerated storage, etc.	83,364	10,277	93,641	71,289	10,159	81,448	88,086	11,314	99,400
Grain elevators.....	13,710	5,408	19,118	9,844	5,115	14,959	12,447	4,984	17,431
Hotels, clubs, restaurants, cafeterias, tourist cabins.....	19,393	11,297	30,690	19,428	10,283	29,711	31,106	10,221	41,327
Office buildings.....	149,659	23,309	172,968	144,925	22,461	167,386	173,031	21,652	194,683
Stores, retail and wholesale.....	150,095	24,512	174,607	156,619	22,405	179,024	154,817	21,329	176,146
Garages and service stations.....	30,320	5,620	35,940	32,614	6,268	38,882	43,016	6,105	49,121
Theatres, arenas, amusement and recreational buildings.....	15,189	2,332	17,521	13,546	1,813	15,359	19,139	1,491	20,630
Laundries and dry cleaning establishments.....	1,016	838	1,854	2,137	842	2,979	763	735	1,498
Institutional	330,727	45,805	376,532	412,750	48,584	461,334	456,491	53,060	509,551
Schools and other educational buildings.....	155,838	19,896	175,734	201,820	22,604	224,424	221,837	22,936	244,773
Churches and other religious buildings.....	32,299	6,167	38,466	35,373	6,388	41,761	46,865	5,539	52,404
Hospitals, sanatoria, clinics, first-aid stations, etc.....	110,495	11,020	121,515	134,748	11,368	146,116	134,277	15,401	149,678
Other institutional buildings.....	32,095	8,722	40,817	40,809	8,224	49,033	53,512	9,184	62,696
Other Building Construction	144,005	82,639	226,644	154,926	84,939	239,865	166,011	91,048	257,059
Farm buildings (excluding dwellings).....	70,190	60,670	130,860	72,836	62,904	135,740	74,919	66,673	141,592
Broadcasting, radio and television, relay and booster stations, telephone exchanges.....	18,848	1,387	20,235	19,167	1,376	20,543	22,745	1,541	24,286
Aeroplane hangars.....	10,017	2,161	12,178	9,267	1,736	11,003	13,219	2,077	15,296
Passenger terminals, bus, boat or air.....	868	163	1,031	540	156	696	719	150	869
Armouries, barracks, drill halls, etc.....	29,213	6,673	35,886	30,907	6,109	37,016	34,335	7,395	41,730
Bunkhouses, dormitories, camp cookeries, bush depots and camps.....	5,764	4,958	10,722	12,936	6,391	19,327	10,495	6,613	17,108
Miscellaneous building...	9,105	6,627	15,732	9,273	6,267	15,540	9,579	6,599	16,178
Totals, Building Construction	2,377,883	536,008	2,913,891	2,818,658	554,964	3,373,622	3,161,880	584,382	3,746,262

9.—Value of Construction Work Performed by Type of Structure 1954-56—continued

Type	1954			1955			1956		
	New	Repair	Total	New	Repair	Total	New	Repair	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Engineering Construction									
Marine.....	58,002	14,441	72,443	65,182	12,030	77,212	122,786	14,476	137,262
Docks, wharves, piers, breakwaters.....	33,050	6,556	39,606	29,540	5,946	35,486	45,576	6,311	51,887
Retaining walls, embankments, riprapping.....	1,861	529	2,390	1,780	428	2,208	1,959	412	2,371
Canals and waterways.....	4,782	1,591	6,373	10,294	1,094	11,388	37,329	1,603	38,932
Dredging and pile driving	14,164	2,861	17,025	17,585	2,685	20,270	31,972	4,058	36,030
Dyke construction.....	1,008	273	1,281	820	252	1,072	642	231	873
Logging booms.....	816	703	1,519	3,629	519	4,148	2,386	688	3,074
Other marine.....	2,321	1,928	4,249	1,534	1,106	2,640	2,922	1,173	4,095
Road, Highway and Aerodrome.....	308,879	164,545	473,424	362,547	145,566	508,113	442,127	154,129	596,256
Hard surfaced or paved streets, highways, parking lots, etc.....	144,699	62,876	207,575	167,063	56,299	223,362	200,327	59,082	259,409
Gravel or stone streets, highways, roads, parking lots, etc.....	68,143	61,085	129,228	87,791	53,705	141,496	104,557	57,471	162,028
Dirt, clay or other streets, roads, parking lots, etc..	20,027	13,404	33,431	26,193	14,095	40,288	37,151	15,199	52,350
Grading, scraping, oiling, filling.....	51,550	21,933	73,483	57,194	17,226	74,420	75,253	18,047	93,300
Sidewalks, paths.....	17,561	4,513	22,074	17,165	3,787	20,952	17,128	3,835	20,963
Aerodromes, landing fields, runways, tarmac.	6,899	734	7,633	7,141	454	7,595	7,711	495	8,206
Waterworks and Sewage Systems.....	157,842	25,615	183,457	159,793	22,514	182,307	184,989	23,822	208,811
Tile drains, drainage ditches, storm sewers..	25,615	4,512	30,127	26,840	3,970	30,810	29,554	4,035	33,589
Water mains, hydrants and services.....	58,798	12,491	71,289	58,258	11,306	69,564	67,986	12,496	80,482
Sewage systems and connections.....	66,448	7,542	73,990	67,640	6,171	73,811	71,250	6,253	77,503
Pumping stations, water.	2,890	863	3,753	4,259	913	5,172	14,254	951	15,205
Water storage tanks.....	4,091	207	4,298	2,796	154	2,950	1,945	87	2,032
Dams and Irrigation....	28,893	3,952	32,845	25,448	3,945	29,393	55,103	4,145	59,248
Dams and reservoirs.....	18,965	1,946	20,911	14,540	1,793	16,333	43,714	1,851	45,565
Irrigation and land reclamation projects.....	9,928	2,006	11,934	10,908	2,152	13,060	11,389	2,294	13,683
Electric Power.....	290,300	31,570	321,870	293,229	35,196	328,425	422,210	36,262	458,472
Electric power generating plants, including water conveying and controlling structures.....	145,610	7,431	153,041	143,594	8,472	152,066	229,561	9,051	238,612
Electric transformer stations.....	13,471	2,824	16,295	19,650	3,867	23,517	29,415	3,980	33,395
Power transmission and distribution lines, trolley wires.....	127,127	19,757	146,884	126,249	21,010	147,259	158,757	21,387	180,144
Street lighting.....	4,092	1,558	5,650	3,736	1,847	5,583	4,477	1,844	6,321
Railway, Telephone and Telegraph.....	118,795	176,029	294,824	140,027	170,615	310,642	165,103	221,135	386,238
Railway tracks and roadbed.....	42,346	142,816	185,162	58,297	136,303	194,600	71,662	183,829	255,491
Signals and interlockers..	4,084	4,148	8,232	1,314	3,940	5,254	3,295	4,190	7,485
Telegraph and telephone lines, underground and marine cables.....	72,365	29,065	101,430	80,416	30,372	110,788	90,146	33,116	123,262
Gas and Oil Facilities...	245,203	24,584	269,787	284,943	24,629	309,572	433,067	25,300	458,367
Gas mains and services..	5,956	1,357	7,313	12,051	1,963	14,014	29,182	2,252	31,434
Pumping stations, oil....	7,717	952	8,669	2,924	738	3,662	2,701	837	3,538

9.—Value of Construction Work Performed by Type of Structure 1954-56—concluded

Type	1954			1955			1956		
	New	Repair	Total	New	Repair	Total	New	Repair	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Engineering Construction—concluded									
Gas and Oil Facilities—concluded									
Pumping stations, gas....	1,026	22	1,048	367	56	423	284	51	335
Oil storage tanks.....	14,185	1,759	15,944	14,487	1,883	16,370	15,653	2,353	18,006
Gas storage tanks.....	2,196	943	3,139	817	470	1,287	1,414	50	1,464
Oil pipelines.....	47,400	2,120	49,520	16,889	1,144	18,033	15,130	857	15,987
Gas pipelines.....	13,185	1,069	14,254	22,175	512	22,687	128,384	802	129,186
Oil wells.....	87,598	2,179	89,777	117,291	2,436	119,727	139,191	3,291	142,482
Gas wells.....	8,273	245	8,518	15,815	285	16,100	23,094	378	23,472
Oil-refinery processing units.....	54,602	13,849	68,451	80,013	14,981	94,994	70,600	14,321	84,921
Natural gas cleaning plants.....	3,065	89	3,154	2,114	161	2,275	7,434	108	7,542
Other Engineering Construction.....	114,304	46,522	160,826	123,469	42,796	166,265	173,937	45,976	219,913
Bridges, trestles, culverts, overpasses, viaducts....	55,319	22,924	78,243	63,636	21,326	84,962	89,471	23,058	112,529
Tunnels and subways....	7,571	440	8,011	3,882	413	4,295	5,169	488	5,657
Incinerators.....	5,184	368	5,552	3,902	615	4,517	3,788	723	4,511
Park systems, landscaping, sodding, etc.....	4,525	5,404	9,929	3,966	3,198	7,164	4,207	3,381	7,588
Swimming pools, tennis courts, outdoor recreation facilities.....	4,437	1,199	5,636	3,890	937	4,827	3,908	1,084	4,992
Mine shafts and other below surface workings .	19,919	2,351	22,270	22,825	2,176	25,001	45,345	2,043	47,388
Fences, snowsheds, signs, guard rails.....	5,757	11,028	16,785	5,727	10,108	15,835	6,572	10,856	17,428
Miscellaneous engineering	11,592	2,808	14,400	15,641	3,983	19,624	15,477	4,343	19,820
Totals, Engineering Construction.....	1,322,218	487,258	1,809,476	1,454,638	457,291	1,911,929	1,999,322	525,245	2,524,567
Grand Totals, Construction.....	3,700,101	1,023,266	4,723,367	4,273,296	1,012,255	5,285,551	5,161,202	1,109,627	6,270,829

Principal statistics of the construction industry are shown by province and for contractors, utilities, governments and others in Table 10. The statistics given for Canada as a whole may be considered as relatively accurate but those given for individual provinces and by class of builder are approximations only. All estimates given for average numbers employed, earnings, and cost of materials used are based on ratios of these items to total value of work performed, derived from survey work done in 1955 and applied to the total value-of-work figures. Although these ratios were calculated in some detail by type of industry still further refinements are required. There are also some difficulties in obtaining the precise geographical location of projects undertaken or to be undertaken by large companies operating in a number of provinces. However if used with these qualifications in mind the table provides useful estimates.

In using the employment data, it is also of value to have a knowledge of the methods used in collecting the basic information on which the estimates are calculated. Respondents are requested to report the total number on payroll during the last pay period of the month; additions of the monthly data are divided by 12 to compute the annual averages. Thus the resulting figures are representative of the total number of employees working full time throughout the year. The total number on the payroll at any given time may of course be above or below this average.

10.—Average Numbers Employed in Construction, Earnings, Cost of Material Used and Value of Work Performed by Province and by Contractor 1953-56

NOTE.—Actual 1953 and 1954; preliminary 1955; intentions 1956.

Province and Year	Average Employees	Earnings	Cost of Material Used	Value of Work Performed
	No.	\$'000	\$'000	\$'000
Province				
Newfoundland..... 1953	8,973	27,623	30,298	68,118
1954	9,755	26,548	30,702	67,372
1955	11,026	30,607	35,152	79,022
1956	12,181	33,688	39,001	87,325
Prince Edward Island..... 1953	2,007	4,211	7,398	14,222
1954	2,229	4,862	5,900	15,589
1955	2,519	5,661	7,102	18,503
1956	2,516	5,691	7,288	18,571
Nova Scotia..... 1953	19,898	50,985	68,550	141,184
1954	18,915	49,227	62,510	136,018
1955	18,205	49,538	64,934	140,452
1956	19,740	53,731	69,643	150,801
New Brunswick..... 1953	15,338	37,110	52,775	105,227
1954	14,820	38,210	59,795	110,975
1955	18,581	49,289	81,101	149,337
1956	22,072	59,011	98,039	180,482
Quebec..... 1953	133,598	398,134	537,622	1,124,040
1954	133,621	408,934	559,341	1,160,447
1955	148,670	465,276	648,775	1,342,902
1956	164,771	516,217	720,499	1,491,212
Ontario..... 1953	171,638	558,757	744,621	1,597,331
1954	180,877	601,469	792,362	1,699,764
1955	187,868	644,877	861,154	1,841,670
1956	221,936	763,874	1,013,313	2,172,326
Manitoba..... 1953	28,894	79,369	122,620	245,760
1954	27,037	82,293	116,945	240,977
1955	27,013	85,475	124,327	254,366
1956	32,343	102,727	148,514	305,057
Saskatchewan..... 1953	25,187	76,390	114,996	235,195
1954	30,333	99,377	125,626	291,521
1955	29,165	98,122	123,651	287,336
1956	31,366	105,187	131,354	300,588
Alberta..... 1953	50,184	177,422	264,628	556,008
1954	50,609	171,399	247,360	550,258
1955	53,183	186,066	267,469	599,328
1956	64,302	225,643	323,675	724,923
British Columbia..... 1953	53,780	216,610	242,105	552,560
1954	44,656	173,755	194,269	450,446
1955	54,000	216,999	250,635	572,635
1956	77,318	315,159	367,609	839,544
Totals..... 1953	509,497	1,626,611	2,185,613	4,639,645
1954	512,852	1,656,074	2,194,810	4,723,367
1955	550,230	1,831,910	2,464,200	5,285,551
1956	648,545	2,180,928	2,918,935	6,270,829

10.—Average Numbers Employed in Construction, Earnings, Cost of Material Used and Value of Work Performed by Province and by Contractor 1953-56—concluded

Contractor and Year		Average Employees	Earnings	Cost of Material Used	Value of Work Performed
Contractors and Others		No.	\$'000	\$'000	\$'000
Contractors.....	1953	317,326	1,085,667	1,588,109	3,358,410
	1954	316,191	1,077,312	1,599,498	3,381,630
	1955	366,743	1,279,791	1,897,483	4,006,284
	1956	437,163	1,540,473	2,268,631	4,797,806
Utilities.....	1953	79,870	233,692	263,128	540,341
	1954	77,137	243,910	244,013	537,576
	1955	72,245	234,874	235,477	517,823
	1956	91,434	298,214	297,329	656,251
Governments.....	1953	56,640	148,278	131,529	318,278
	1954	68,724	179,767	141,983	383,558
	1955	63,862	171,850	134,221	361,156
	1956	68,952	185,434	142,977	388,725
Others.....	1953	55,661	158,974	202,847	422,616
	1954	50,800	155,085	209,316	420,603
	1955	47,380	145,395	197,019	400,288
	1956	50,996	156,807	209,998	428,047

Subsection 2.—Contracts Awarded and Building Permits Issued

In this Subsection statistics are given of work actually in sight either as contracts awarded or as building permits. These figures are related to those of work performed during the year only so far as the work thus provided for is completed and duly reported in the capital expenditure surveys. Further, values of contracts awarded, and especially of building permits, are estimates (more often under-estimates) of work to be done.

Contracts Awarded.—According to figures published by *MacLean Building Reports Limited*, the value of contracts awarded in 1955 increased by \$1,028,632,800 or 48 p.c. over 1954. The most substantial increase was in engineering construction which more than doubled during the year.

Decreases in the value of construction contracts awarded in 1955 compared with 1954 in the Provinces of Prince Edward Island, Nova Scotia, Manitoba and Saskatchewan were more than offset by increases in the other provinces. The greatest absolute increases were shown by British Columbia and Ontario.

11.—Value of Construction Contracts Awarded 1920-55

(SOURCE: *MacLean Building Reports Limited*)

Year	Value of Construction Contracts	Year	Value of Construction Contracts	Year	Value of Construction Contracts
	\$		\$		\$
1920.....	255,605,000	1932.....	132,872,400	1944.....	291,961,800
1921.....	240,133,300	1933.....	97,289,800	1945.....	409,032,700
1922.....	331,843,800	1934.....	125,811,500	1946.....	663,355,100
1923.....	314,254,300	1935.....	160,305,000	1947.....	718,137,100
1924.....	276,261,100	1936.....	162,588,000	1948.....	954,082,400
1925.....	297,973,000	1937.....	224,056,700	1949 ¹	1,143,547,300
1926.....	372,947,900	1938.....	187,277,900	1950.....	1,525,764,700
1927.....	418,951,600	1939.....	187,178,500	1951.....	2,295,499,200
1928.....	472,032,600	1940.....	346,009,800	1952.....	1,812,177,600
1929.....	576,651,800	1941.....	393,991,300	1953.....	2,017,060,700
1930.....	456,999,600	1942.....	281,594,100	1954.....	2,154,959,200
1931.....	315,482,000	1943.....	206,103,900	1955.....	3,183,592,000

¹ Newfoundland included from Apr. 1, 1949.

12.—Value of Construction Contracts Awarded by Province and Type of Construction 1951-55

(Source: MacLean Building Reports Limited)

Province and Type of Construction	1951	1952	1953	1954	1955
	\$	\$	\$	\$	\$
Newfoundland.....	10,509,400	21,985,300	8,549,700	12,253,700	39,140,200
Prince Edward Island.....	3,251,000	3,489,000	1,254,300	3,899,500	3,157,600
Nova Scotia.....	67,837,000	78,502,000	54,355,800	71,841,400	55,259,600
New Brunswick.....	20,983,900	25,177,000	28,602,000	46,225,300	100,127,200
Quebec.....	480,106,000	397,931,400	539,818,600	538,079,200	778,843,900
Ontario.....	1,017,426,900	732,768,100	849,812,400	939,746,400	1,300,287,700
Manitoba.....	91,157,700	95,690,300	80,455,700	119,828,600	97,164,600
Saskatchewan.....	39,604,700	59,170,000	75,724,400	76,375,200	63,037,200
Alberta.....	183,075,100	231,191,300	215,010,900	219,205,000	230,309,700
British Columbia.....	381,547,500	166,273,200	163,476,900	127,504,900	516,264,300
Totals.....	2,295,499,200	1,812,177,600	2,017,060,700	2,154,959,200	3,183,592,000
RESIDENTIAL—					
Apartments.....	55,819,900	101,665,300	130,462,400	151,316,400	179,720,400
Residences.....	381,289,800	409,637,400	602,296,900	748,700,400	1,036,704,700
TOTALS, RESIDENTIAL.....	437,109,700	511,302,700	732,759,300	900,016,800	1,216,425,100
BUSINESS—					
Churches.....	25,274,900	26,455,700	32,009,200	44,540,900	37,759,300
Public garages.....	10,838,000	15,958,100	17,298,400	20,798,400	25,748,900
Hospitals.....	85,746,400	56,175,300	69,047,600	62,883,500	77,604,400
Hotels and clubs.....	32,095,700	23,055,600	32,399,800	39,171,000	93,955,400
Office buildings.....	29,108,200	39,640,300	78,035,900	81,715,500	99,842,900
Public buildings.....	150,483,700	149,351,000	111,235,600	120,018,500	102,191,400
Schools.....	139,938,800	130,398,800	119,009,200	169,059,600	174,686,800
Stores.....	33,497,100	41,999,300	81,197,300	76,592,300	93,939,200
Theatres.....	2,713,900	3,116,900	3,075,300	3,069,400	2,221,800
Warehouses.....	37,985,400	40,243,900	70,501,400	77,123,300	53,212,700
TOTALS, BUSINESS.....	547,682,100	526,394,900	613,809,700	694,972,400	761,162,800
INDUSTRIAL.....	451,753,200	245,851,100	230,925,800	169,650,100	386,410,300
ENGINEERING—					
Bridges.....	19,340,400	37,569,700	14,858,700	21,219,300	47,147,300
Dams and wharves.....	32,155,000	59,257,500	63,592,100	30,649,100	106,319,200
Sewers and water mains.....	63,333,300	44,919,300	46,385,500	59,394,600	70,341,900
Roads and streets.....	94,621,900	113,015,000	97,964,200	113,919,500	176,164,600
General engineering.....	649,503,600	273,867,400	216,765,400	165,137,400	419,620,800
TOTALS, ENGINEERING.....	858,954,200	528,628,900	439,565,900	390,319,900	819,593,800

Building Permits.—The estimated value of proposed construction as indicated by building permits issued in 204 municipalities in 1955 amounted to \$1,309,024,449, an increase of 14 p.c. over the 1954 estimate of \$1,151,087,193. The 1954 figure was 6 p.c. above the \$1,088,879,902 reported for 1953.

13.—Estimated Value of Proposed Construction as Indicated by Building Permits Issued in 204 Municipalities 1954 and 1955

Province and Municipality	1954	1955	Province and Municipality	1954	1955
	\$	\$		\$	\$
Prince Edward Island—			Liverpool.....	114,770	938,750
Charlottetown.....	1,542,100	3,818,550	New Glasgow.....	85,355 ¹	..
Nova Scotia—			New Waterford.....	25,000	12,450
Amherst.....	369,970	386,765	North Sydney.....	172,950	99,450
Bridgewater.....	208,790	326,450	Sydney.....	993,986	3,138,370
Dartmouth.....	3,194,575	4,289,155	Sydney Mines.....	86,075	55,100
Glace Bay.....	218,122	184,499	Truro.....	605,710	1,048,270
Halifax.....	10,045,230	7,590,900	Yarmouth.....	142,020	171,810

¹ January to June only.

13.—Estimated Value of Proposed Construction as Indicated by Building Permits Issued in 204 Municipalities 1954 and 1955—continued

Province and Municipality	1954	1955	Province and Municipality	1954	1955
\$	\$	\$	\$	\$	\$
New Brunswick—			Ontario—concluded		
Campbellton.....	365,010	2,668,318	Cochrane.....	123,480	177,317
Chatham.....	105,000	86,000	Collingwood.....	209,185	409,145
Dalhousie.....	184,300	257,410	Cornwall.....	1,321,275	2,243,686
Fredericton.....	2,139,051	2,999,367	Dundas.....	1,824,092	2,391,650
Moncton.....	5,319,809	5,186,740	Eastview.....	2,812,216	2,794,250
Newcastle.....	283,400	905,150	Etobicoke Twp.....	63,498,545	56,714,850
Saint John.....	3,652,422	7,192,940	Forest Hill.....	4,904,693	1,447,110
St. Stephen.....	61,835	36,296	Fort Erie.....	1,136,084	772,442
			Fort Frances.....	678,014	1,341,765
			Fort William.....	3,042,555	5,399,004
			Galt.....	3,119,933	3,163,220
Quebec—			Gananoque.....	356,505	301,200
Cap de la Madeleine.....	1,882,375	2,298,406	Gloucester Twp.....	6,513,237	5,347,443
Chicoutimi.....	2,695,050	6,927,100	Goderich.....	1,882,660	175,805
Coaticook.....	827,735	198,330	Huelph.....	5,758,567	6,246,099
Drummondville.....	1,163,675	698,280	Haileybury.....	56,900	133,392
Cranby.....	2,783,854	4,423,544	Hamilton.....	32,743,024	32,892,471
Grand Mère.....	1,325,050	1,289,050	Hanover.....	99,100	90,850
Hampstead.....	490,900	395,836	Hawkesbury.....	269,951	1,132,915
Hull.....	4,480,245	6,851,800	Huntsville.....	238,525	216,350
Iberville.....	387,890	561,090	Ingersoll.....	384,190	364,540
Joliette.....	1,483,225	2,695,212	Kapuskasing.....	440,785	1,084,700
Jonquières.....	2,332,500	2,233,557	Kenora.....	848,540	1,486,450
Lachine.....	4,251,460	7,295,018	Kingston.....	6,910,827	9,487,248
Laprairie.....	380,375	813,300	Kirkland Lake (Teck Twp.).....	403,236	429,267
La Tuque.....	238,875	639,850	Kitchener.....	10,395,049	11,007,272
Lévis.....	492,750	1,631,650	Leamington.....	1,379,311	631,173
Longueuil.....	1,894,500	1,477,325	Leaside.....	1,462,684	637,106
Mégantic.....	476,135	426,290	Lindsay.....	673,720	346,195
Montreal (Maisonneuve).....	110,838,985	164,111,041	Listowel.....	116,050	114,300
Montreal East.....	2,197,315	3,640,205	London.....	7,413,415	8,485,955
Montreal North.....	4,910,230	7,924,936	Long Branch.....	2,520,875	2,301,970
Montreal West.....	311,400	1,575,700	Napanee.....	182,700	270,500
Mount Royal.....	7,714,603	6,671,425	Nepean Twp.....	3,302,473	4,582,811
Noranda.....	512,421	319,875	New Liskeard.....	217,371	475,527
Outremont.....	2,726,125	1,442,200	Newmarket.....	1,222,100	952,550
Point-aux-Trembles.....	1,124,737	4,623,754	New Toronto.....	1,309,875	1,436,279
Point Claire.....	7,330,588	4,973,175	Niagara Falls.....	2,206,223	5,089,744
Quebec.....	17,497,882	14,311,950	North Bay.....	2,509,740	3,275,652
Rimouski.....	1,620,205	1,696,699	North York Twp.....	83,847,683	78,937,372
Rivière-du-Loup.....	698,050	560,425	Oakville.....	2,509,740	3,275,652
Rouyn.....	1,537,350	861,105	Orillia.....	1,573,280	1,914,364
Ste. Agathe-des-Monts.....	204,700	168,000	Oshawa.....	9,180,036	13,251,917
Ste. Anne-de-Bellevue.....	238,060	143,300	Ottawa.....	49,569,862	57,095,846
St. Hyacinthe.....	1,145,100	2,812,100	Owen Sound.....	1,566,175	821,795
St. Jean.....	3,102,347	7,573,019	Paris.....	264,625	342,175
St. Jérôme.....	1,491,000	1,359,323	Parry Sound.....	292,680	409,225
St. Joseph.....	388,556		Pembroke.....	3,049,580	1,438,990
St. Lambert.....	2,510,790	2,888,910	Perth.....	193,667	270,450
St. Laurent.....	16,180,026	11,810,340	Peterborough.....	5,072,082	6,433,631
Shawinigan Falls.....	658,800	1,343,750	Petrolia.....	223,120	152,940
Sherbrooke.....	4,519,770	6,754,550	Port Arthur.....	3,337,206	5,839,649
Sorel.....	931,440	802,065	Port Colborne.....	1,283,602	1,936,741
Three Rivers.....	4,839,500	4,578,300	Preston.....	1,213,931	2,318,733
Val d'Or.....	238,150	395,472	Renfrew.....	829,340	632,670
Valleyfield.....	1,486,545	2,950,252	Riverside.....	1,939,815	2,756,435
Verdun.....	3,142,100	3,220,850	St. Catharines.....	4,017,033	6,548,409
Westmount.....	1,977,036	4,289,265	St. Marys.....	86,950	511,900
			St. Thomas.....	1,254,349	1,323,384
Ontario—			Sarnia.....	6,603,137	7,347,415
Amherstburg.....	207,150	1,478,274	Sault Ste. Marie.....	2,170,910	4,212,470
Barrie.....	3,223,130	3,773,682	Scarboro Twp.....	70,522,955	84,829,400
Belleville.....	2,950,178	2,094,801	Simcoe.....	1,070,090	699,678
Bowmanville.....	1,067,790	710,456	Smith's Falls.....	568,500	496,650
Bracebridge.....	109,300	121,550	Stratford.....	1,218,355	2,085,395
Brampton.....	2,961,255	4,334,510	Sudbury.....	5,239,450	3,931,780
Brantford.....	2,472,066	6,099,604	Swansea.....	803,415	723,120
Brockville.....	1,849,743	3,397,060	Tillsonburg.....	463,710	435,930
Burlington.....	2,715,410	2,096,515	Timmings.....	1,442,030	1,017,319
Campbellford.....	203,250	78,100	Toronto.....	86,211,166	75,982,009
Chatham.....	3,152,750	4,657,984	Trenton.....	1,179,229	1,949,610
Cobourg.....	2,467,163	2,001,568			

¹ July to December only.

13.—Estimated Value of Proposed Construction as Indicated by Building Permits Issued in 204 Municipalities 1954 and 1955—concluded

Province and Municipality	1954	1955	Province and Municipality	1954	1955
\$		\$		\$	\$
Ontario—conc.			Saskatchewan—concl.		
Wallaceburg.....	390,915	452,350	Swift Current.....	1,461,320	1,419,765
Waterloo.....	4,798,305	4,947,846	Weyburn.....	824,525	727,680
Welland.....	1,739,776	1,806,549	Yorkton.....	1,871,750	887,100
Weston.....	2,597,421	1,063,356			
Whitby.....	3,549,300	3,893,454			
Windsor.....	15,681,652	10,553,340	Alberta—		
Woodstock.....	3,959,569	3,368,020	Calgary.....	46,699,059	58,897,348
York Twp.....	14,568,275	12,223,830	Drumheller.....	311,773	238,448
York East Twp.....	4,641,709	3,861,235	Edmonton.....	68,328,546	58,718,696
			Lethbridge.....	9,020,581	6,356,271
			Medicine Hat.....	2,457,449	22,266,810
Manitoba—			British Columbia—		
Brandon.....	3,033,654	3,650,973	Chilliwack.....	958,555	1,294,155
Brooklands.....	400,170	273,300	Cranbrook.....	520,143	625,029
Dauphin.....	322,495	915,340	Fernie.....	18,025	17,650
North Kildonan.....	677,750	778,250	Kamloops.....	1,518,597	1,140,257
Portage la Prairie.....	690,957	2,111,604	Kelowna.....	1,396,308	1,676,212
St. Boniface.....	4,499,684	5,982,704	Nanaimo.....	2,524,552	3,076,005
Selkirk.....	339,320	336,650	Nelson.....	1,058,469	464,149
The Pas.....	213,800	214,700	New Westminster.....	3,578,680	4,335,535
Transcona.....	1,003,050	2,002,635	North Vancouver.....	3,775,119	3,983,765
Winnipeg.....	35,833,600	42,364,200	Prince George.....	1,215,050	2,842,446
			Prince Rupert.....	583,880	1,005,906
Saskatchewan—			Revelstoke.....	159,835	175,720
Biggar.....			Rossland.....	123,625	156,381
Estevan.....	522,077	776,461	Trail.....	1,363,922	1,204,506
Melville.....	408,180	338,400	Vancouver.....	45,285,787	55,446,193
Moose Jaw.....	5,090,715	2,976,793	Vernon.....	875,635	1,034,598
North Battleford.....	1,379,000	1,537,289	Victoria.....	6,221,092	7,181,234
Prince Albert.....	2,784,768	3,701,514			
Regina.....	19,284,639	24,358,332	Totals, 204 Municipalities	1,151,087,193	1,309,024,449
Saskatoon.....	17,603,397	17,616,912			

Table 14 shows the value of building permits issued in fourteen metropolitan areas across Canada. In 1955 the permits issued in these areas made up 73 p.c. of the total for the 204 municipalities.

14.—Estimated Value of Building Permits Issued in Fourteen Metropolitan Areas 1953-1955

Metropolitan Area	1953	1954	1955	Metropolitan Area	1953	1954	1955
	\$'000	\$'000	\$'000		\$'000	\$'000	\$'000
Halifax.....	1,291	1,103	990	Port Arthur-Fort William....	813	494	937
Quebec.....	2,007	2,595	2,215	Winnipeg.....	3,846	5,657	7,341
Montreal.....	16,879	17,148	22,298	Regina.....	2,260	1,607	2,030
Ottawa-Hull.....	4,722	5,474	6,145	Saskatoon.....	1,290	1,467	1,468
Toronto.....	23,532	28,067	25,889	Calgary.....	3,560	3,918	4,946
Hamilton.....	4,485	4,514	5,047	Edmonton.....	4,838	5,838	5,200
Windsor.....	2,578	2,363	2,351	Vancouver.....	8,386	8,792	10,318

The indexes given in Table 15 show as far as possible the fluctuations in building costs and their effect upon construction work and employment. The relative proportions of material and wage costs in general building are difficult to determine since such proportions vary with the type of building and the centres studied.

15.—Value of Building Permits Issued in 204 Municipalities and Index Numbers of the Building Construction Industries 1947-55

Year	Value of Building Permits, 204 Municipalities	Average Index Numbers (1949=100)			
		Prices of Building Materials		Wage Rates in Construction Industries ¹	Employment in Building Construction ²
		Residential	Non-residential		
	\$				
1947.....	373,231,249	79.1	84.5	84.1	81.9
1948.....	536,057,597	95.4	95.9	95.7	91.4
1949.....	616,160,593	100.0	100.0	100.0	100.0
1950.....	801,765,092	106.4	105.0	104.8	104.7
1951.....	681,161,938	125.5	118.6	118.6	116.0
1952.....	802,737,975	124.9	123.2	123.6	127.1
1953.....	1,088,879,902	123.9	124.4	136.2	128.2
1954.....	1,151,087,193	121.7	121.8	140.0	115.8
1955.....	1,309,024,449	124.2	123.3	145.4	117.4

¹ Compiled by the Department of Labour, Ottawa.

² As reported by employers.

Subsection 3.—Construction of Dwelling Units

Most of the postwar population increase in Canada has been located in urban centres and has been accompanied by a concentration of house building activity in these centres. Of the total increase in dwelling stock of 800,000 units since the end of World War II 69 p.c. have been in urban centres of over 5,000 population and 51 p.c. in thirteen of the metropolitan areas shown in Table 19 (comparable figures over the period are not available for Edmonton and Calgary).

This pattern continued in 1955 when the numbers of dwellings started and completed, at 138,000 and 128,000 respectively, exceeded the activity of any previous year. Of the dwellings started 52 p.c. were in metropolitan areas and 77 p.c. in urban areas. Many of the dwellings started in areas defined as rural were situated close to the larger urban centres.

There was a considerable increase in starts of single family dwellings in 1955 as compared with 1954 and a large part of the increase was financed under the new National Housing Act; 1955 was the first full year of the operation of the Act with its provisions for easier terms to home-owner borrowers in respect of lower down-payment requirements and a longer period of loan payment.* The Act also provides for the participation of the chartered banks in mortgage lending and these institutions played an important role in the supply of a record volume of funds for mortgage loans in 1955. The effect of these provisions was to raise the proportion of dwellings started under the Housing Act from 38 p.c. in 1954 to 45 p.c. in 1955.

* The National Housing Act and assistance thereunder is dealt with in detail at pp. 709-712.

16.—New Dwelling Units Completed by Type 1952-55

Type	1952	1953	1954	1955
	No.	No.	No.	No.
New Construction	73,087	96,839	101,965	127,552
One family detached.....	55,967	68,916	71,760	90,292
Two family detached.....	5,314	7,714	6,098	8,278
Row or terrace.....	99	372	1,065	1,547
Apartments.....	11,707	19,837	23,042	27,435
Conversions	3,215	3,824	4,373	4,340
Totals¹	76,302	100,663	106,338	131,892

¹ Exclusive of the Yukon and Northwest Territories.

17.—New Dwelling Units Started, Completed and under Construction by Province 1954 and 1955

(Exclusive of Conversions)

Province	1954			1955		
	Starts	Com- pletions	Under Construc- tion Dec. 31	Starts	Com- pletions	Under Construc- tion Dec. 31
	No.	No.	No.	No.	No.	No.
Newfoundland.....	1,345	1,160	2,906	1,613	1,284	3,057
Prince Edward Island.....	198	188	87	214	199	93
Nova Scotia.....	2,311	2,496	1,503	2,946	2,611	1,595
New Brunswick.....	2,228	1,415	1,369	2,986	2,562	1,758
Quebec.....	29,958	26,182	16,629	39,852	34,866	21,812
Ontario.....	46,382	41,085	27,941	53,456	51,351	30,055
Manitoba.....	5,260	5,107	2,796	6,705	5,873	3,564
Saskatchewan.....	4,713	4,889	2,545	4,348	4,278	2,258
Alberta.....	11,529	10,285	6,442	10,542	10,494	6,381
British Columbia.....	9,603	9,158	6,423	15,614	14,034	9,143
Canada¹	113,527	101,965	68,641	138,276	127,552	79,716

¹ Exclusive of the Yukon and Northwest Territories.

18.—New Dwelling Units Completed, classified as Urban or Rural by Province 1954 and 1955

(Exclusive of Conversions)

Province	1954			1955		
	Urban	Rural	Total	Urban	Rural	Total
	No.	No.	No.	No.	No.	No.
Newfoundland.....	772	388	1,160	649	635	1,284
Prince Edward Island.....	58	130	188	109	90	199
Nova Scotia.....	1,843	653	2,496	1,583	1,028	2,611
New Brunswick.....	663	752	1,415	870	1,692	2,562
Quebec.....	23,642	2,540	26,182	29,376	5,490	34,866
Ontario.....	33,874	7,211	41,085	40,734	10,617	51,351
Manitoba.....	4,284	823	5,107	4,891	982	5,873
Saskatchewan.....	3,876	1,013	4,889	3,719	559	4,278
Alberta.....	8,939	1,346	10,285	8,932	1,562	10,494
British Columbia.....	8,718	440	9,158	10,785	3,249	14,034
Canada¹	86,669	15,296	101,965	101,648	25,904	127,552

¹ Exclusive of the Yukon and Northwest Territories.

19.—New Dwelling Units Completed in Metropolitan Areas 1952-55

(Exclusive of Conversions)

Metropolitan Area	Number				Percentage of Total			
	1952	1953	1954	1955	1952	1953	1954	1955
St. John's, Nfld.	402	585	451	435	0.6	0.6	0.4	0.3
Halifax, N.S.	636	1,241	1,360	1,275	0.9	1.3	1.3	1.0
Saint John, N.B.	211	273	273	295	0.3	0.3	0.3	0.2
Quebec, Que.	1,056	1,580	2,380	2,769	1.4	1.6	2.3	2.2
Montreal, Que.	11,500	17,833	16,191	19,923	15.6	18.3	15.9	15.6
Ottawa, Ont.	1,752	2,149	2,537	3,549	2.4	2.2	2.5	2.8
Toronto, Ont.	9,576	9,460	16,252	22,016	13.1	9.8	16.0	17.3
Hamilton, Ont.	1,877	2,961	2,593	2,932	2.6	3.1	2.5	2.3
London, Ont.	1,358	1,355	1,297	1,356	1.9	1.4	1.3	1.1
Windsor, Ont.	818	940	1,722	982	1.1	1.0	1.7	0.8
Winnipeg, Man.	2,088	3,089	3,602	4,181	2.9	3.2	3.5	3.3
Calgary, Alta.	2,092	3,316	3,167	3,223	2.9	3.4	3.1	2.5
Edmonton, Alta.	2,864	3,701	3,873	3,960	3.9	3.8	3.8	3.1
Vancouver, B.C.	4,249	5,913	6,796	8,209	5.8	6.1	6.7	6.4
Victoria, B.C.	715	944	1,065	1,421	1.0	1.0	1.0	1.1
Totals, Metropolitan Areas	41,194	55,340	63,559	76,526	56.4	57.1	62.3	60.0
Totals, Canada¹	73,087	96,839	101,965	127,552	100.0	100.0	100.0	100.0

¹ Exclusive of the Yukon and Northwest Territories.

Subsection 4.—Government Aid to House Building*

Federal Government Assistance.—Federal Government assistance to house building in Canada is primarily assistance to private builders including prospective home owners, merchant builders and investors in rental housing. In the ten year period 1945-54, 8 p.c. of the new permanent dwellings completed were built directly on Government account and 26 p.c. represented private enterprise dwellings for which some public assistance was provided. The Federal Government carries on house building operations under programs providing married quarters for the Armed Forces and until 1953 rental units for veterans. The Federal Government also undertakes joint rental housing projects in co-operation with provincial governments (*see p. 711*).

The Federal Government entered the housing field on a continuing basis in 1935 with the passage of the Dominion Housing Act, an Act succeeded by more extensive and detailed legislation in 1938, 1944 and 1954. Public assistance to private builders is now provided under the terms of the National Housing Act 1954, together with the Canadian Farm Loan Act 1927, the Veterans' Land Act 1942, and the Farm Improvement Loans Act 1944. The National Housing Act represents the Government's main legislation in the housing field and provides public assistance to private house building mainly through a system of mortgage loan insurance. The Central Mortgage and Housing Corporation, incorporated by Act of Parliament passed in December 1945, is the agency responsible for the provision of most of the public assistance to housing. It administers the present Housing Act and earlier housing Acts and co-ordinates Government activities in the housing field. The Corporation supervises the Department of National Defence program for the construction of married quarters for the Armed Forces.

The National Housing Act 1954.—The National Housing Act 1954 provides assistance to private house building primarily through a system of public insurance of mortgage loans made by private lenders to finance the construction of housing or home conversion. To broaden the potential supply of mortgage funds for these purposes the Act includes provisions which permit lenders, approved under the Act, to sell them to individuals and other investors who are not approved lenders.

Other types of assistance provided in the Act include Federal Government loans for house building undertaken by limited dividend housing corporations and primary producers and by builders in areas where mortgage loans under the Act are not available from private

* Prepared in the Economic Research Department, Central Mortgage and Housing Corporation Ottawa.

lenders. Provision is also made for federal-provincial co-operation in land assembly and development and in the construction and ownership of low rent housing; assistance in housing redevelopment and the clearance of blighted areas; and rental guarantees and guarantees of loans for home improvement and extension.

The insurance of a mortgage loan made under the Act requires that a single fee for the insurance be paid by the borrower at the time the loan is made. This fee is added to the amount of the approved loan and varies between $1\frac{1}{2}$ p.c. and $2\frac{1}{2}$ p.c. of the loan amount, depending upon whether home owner or rental housing is being financed and whether instalment advances are made. The Central Mortgage and Housing Corporation is the underwriter.

In an insurance claim the approved lender is required to complete such legal proceedings as are necessary to transfer the property, with clear title, to the Central Mortgage and Housing Corporation. The regulations under the Act require that the insurance claim be made within 30 days of the time the claimant acquires clear title. The settlement includes allowances for principal, interest and settlement costs. The claimant receives 98 p.c. of the amount owing on the principal at the time foreclosure proceedings were instituted or, where no such proceedings were involved, at the time the property was acquired, less any repayments made by the borrower during proceedings. The payment also includes the full amount of such approved charges as were advanced to the borrower in order to maintain the security of the mortgage, e.g., fire insurance premiums. The allowance for interest payments in default at the time the property is conveyed to the Corporation is 98 p.c. of the amount of such payments due or accrued for the default period up to a maximum of six months, less any repayments made by the borrower during proceedings. An additional amount is paid when the default period is more than six months. For settlement costs the claimant receives \$125 as compensation for the acquisition fee and other approved legal disbursements.

For insured loans on dwellings for home ownership, other than for certified defence workers, the maximum loan-to-value ratio is set at 90 p.c. of the first \$8,000 of the lending value and 70 p.c. of the remainder, subject to a maximum loan of \$12,800 set by regulation. For a duplex the loan is calculated on the same 90 p.c. and 70 p.c. basis for the first half of the lending value with 80 p.c. allowed on the second half of the lending value, subject to a maximum set by regulation at \$15,300. For dwellings for certified defence workers the ratio of the loan amount to lending value is 90 p.c. For farm dwellings loans may be made for \$10,000 or two-thirds of the appraised value of the farm, whichever is the lesser amount.

For rental housing projects insured loans may be made up to 80 p.c. of the lending value of the project and up to a maximum amount of \$7,000 per dwelling for multiple family dwellings. For home conversion insured loans must not exceed the lesser of 70 p.c. of the lending value of the structure, including land, when the alteration is completed, or the cost of the alterations together with the amount necessary to discharge all encumbrances on the title to the land.

The usual term of an insured loan for a dwelling for home ownership is 25 years but loans for shorter periods may be approved at the borrower's request. For rental housing projects the term of the loan may not exceed 25 years and for home conversion the maximum is 15 years.

The maximum rate of interest on insured loans is set by the Governor General in Council. At the time the rate is promulgated it may not exceed the yield on 20 year Federal Government bonds by more than $2\frac{1}{2}$ p.c. On Feb. 17, 1955 the maximum rate on insured loans for home ownership, home conversion, rental housing projects and farm housing was reduced by regulation from $5\frac{1}{2}$ p.c. to $5\frac{1}{4}$ p.c. On May 9, 1955 the Royal Bank of Canada announced that it would approve loans under the Act at an interest rate of 5 p.c. This change was followed by many other approved lenders. For all insured loans the Central Mortgage and Housing Corporation approves the plans and specifications, makes appraisals and undertakes the construction inspections to ensure compliance with approved standards.

To facilitate the development of a secondary market in insured mortgage loans the 1954 Act provides that the insurance policy on a mortgage loan made under the Act may be assigned to the purchaser should the loan be sold, provided that the loan continues to be serviced by an approved lender. As a result individuals and other investors who are not approved lenders may invest in insured mortgages by arranging with an approved lender to service the loan. In 1955 approved lenders had sold approximately \$16,906,000 worth of insured mortgages. The Act also authorizes the Central Mortgage and Housing Corporation to buy and sell insured mortgage loans as well as to make loans to approved lenders upon the security of insured mortgage loans. By endowing the insured mortgage loan with a degree of liquidity and transferability not normally present in the mortgage market the potential supply of mortgage funds is greatly broadened.

The National Housing Act authorizes the Central Mortgage and Housing Corporation to make mortgage loans to limited dividend corporations and to companies engaged in primary industries of logging, lumbering, fishing and mining. Loans to limited dividend housing corporations are made at low rates of interest for the construction of low and medium rental housing units. By July 31, 1955, 48 companies had been formed under the sponsorship of business companies or local groups and the financing of some of them was supplemented by municipal grants or contributions from service clubs. Many of the dwelling units constructed by these companies are occupied by widows and old age pensioners. The Central Mortgage and Housing Corporation is also authorized to make mortgage loans for house building in areas where insured mortgage loans are not available from approved lenders. These loans are made on the same basis as those made by approved lenders under the Act.

The Act provides that, following agreements between a provincial government and the Government of Canada, the Central Mortgage and Housing Corporation may undertake jointly with the province the development of a housing or land assembly project. Capital costs, profits and losses of such projects are shared 75 p.c. by the Federal Government and 25 p.c. by the province. The provincial government in turn may require the municipality concerned to participate in the provincial share.

By July 1955 all provinces except Prince Edward Island had passed complementary legislation and projects were under way or completed in six provinces. Under this legislation, three main types of housing agreement have been involved: (1) the construction of houses for rental on an economic or sub-economic basis; (2) the assembly and servicing of residential lots for sale to builders and prospective home owners; and (3) combined rental housing and land assembly projects where a portion of the land developed is used for housing and the remainder sold. Completed rental housing projects are administered by local housing authorities whose members are appointed by provincial Order in Council. Local authorities have been established in 30 municipalities. By July 31, 1955, 73 projects had been approved—28 for land assembly only, 12 for combined land assembly and rental housing and 33 for the erection of rental housing over the whole site. The 45 rental projects relate to 5,428 rental units, 2,986 of which had been completed. The land assembly projects involve the servicing of 12,211 lots, 3,132 of which had been completed and sold to builders and prospective home owners.

Under the land assembly provisions of the Act lending institutions are guaranteed the recovery of their investment and a return of 2 p.c. on land development projects. These projects involved the development of raw land into serviced lots for residential purposes and their sale at prices considerably below the market price for comparable lots. Little activity has taken place under these provisions in recent years.

The National Housing Act provides that, where a municipality agrees to buy and clear an area of substandard housing with a view to disposing of the site for new rental housing or for other public purposes, a federal grant may be made to the municipality amounting to one-half its net loss on the land transaction. By the end of July 1955 a total of \$3,216,937 in grants had been made to municipalities for the clearance of 75 acres of blighted land.

The rental guarantee plan of the National Housing Act is designed to encourage the construction of rental housing by private builders. Owners of projects built under the plan are guaranteed a return of rent sufficient to pay taxes, operating expenses, debt service and a minimum return of 2 p.c. on their equity. From the plan's inception in 1948 to July 31, 1955 projects were approved involving 21,733 units having an estimated cost of \$164,643,000.

The National Housing Act provides for federal guarantee of loans for home improvement and extension. These loans are secured by promissory notes and require an insurance charge of 1 p.c. of the amount of the loan. Prior to 1955 the guarantee provisions were in force only for loans to borrowers in the Municipal District of Yellowknife, N.W.T. Effective Jan. 1, 1955 these provisions were put into force for veterans under subsisting smallholding contracts with the Director of the Veterans' Land Act and, effective February 1955, the guarantee provisions came into force for all borrowers eligible under the Act. By the end of July 1955 loans for home improvement amounting to \$11,882,065 and involving 10,135 dwelling units had been approved under the Act. All of these loans were made by banks.

The Canadian Farm Loan Act 1927 (R.S.C. 1952, c. 36, amended by c. 309).—This legislation provides for federal longterm loan assistance for housing as well as for other farm purposes. (See pp. 392-393.)

The Veterans' Land Act 1942 (R.S.C. 1952, c. 280).—This Act is administered by the Department of Veterans Affairs and provides a form of loan and grant assistance to veterans for housing and other purposes. (See pp. 310-312.)

The Farm Improvement Loans Act 1944 (R.S.C. 1952, c. 110).—This Act provides for guarantees for intermediate and short-term loans made by approved lending agencies to farmers for housing and other purposes. (See pp. 393-394.)

Statistics of Federal Government Assistance to House Building.—The extent of federal assistance to house building from the passage of the first federal housing legislation in 1935 to 1954 is given in Table 20.

20.—Dwellings Completed with and without Federal Government Assistance 1935-54

(Exclusive of the Yukon and Northwest Territories)

Year	With Federal Government Assistance				Without Federal Government Assistance	Total
	Direct Government	Loans	Guarantees	Total ¹		
	'000	'000	'000	'000	'000	'000
1935.....	—	0.5	—	0.5	32.4	32.9
1936.....	—	1.1	0.1	1.2	38.1	39.3
1937.....	—	1.5	0.9	2.4	46.2	48.6
1938.....	—	2.4	0.9	3.3	40.7	44.0
1939.....	—	5.2	1.1	6.3	45.4	51.7
1940.....	—	6.2	0.8	7.0	45.5	52.5
1941.....	1.7	4.9	—	6.6	50.2	56.8
1942.....	7.6	2.7	—	10.3	36.9	47.2
1943.....	6.4	1.3	0.1	7.8	29.0	36.8
1944.....	2.8	0.1	—	2.9	39.9	42.8
1945.....	3.4	2.0	0.2	5.6	42.9	48.5
1946.....	14.0	5.6	0.4	20.0	47.2	67.2
1947.....	10.0	10.6	0.4	21.0	58.2	79.2
1948.....	8.7	13.9	0.5	23.1	58.1	81.2
1949 ²	9.5	23.4	2.7	35.6	55.4	91.0
1950.....	6.8	32.5	2.5	41.8	50.0	91.8
1951.....	3.5	29.3	1.5	34.3	50.5	84.8
1952.....	3.9	22.6	0.9	27.4	48.9	76.3
1953.....	4.9	37.5	0.8	43.2	57.5	100.7
1954.....	1.7	29.8 ³	0.6	32.1	74.3	106.3
Totals, 1935-54.....	84.9	233.1	14.4	332.4	947.3	1,279.6

¹ Exclusive of small number of dwellings built by Federal Government Departments as part of their normal operations.

² Newfoundland included from 1949.

³ Includes 7,345 units completed with loans made by private lending institutions and insured by the Federal Government.

In 1954 a total of 106,338 dwellings were completed in Canada. Of these 1,713 were built directly by the Federal Government; 29,758 were built either with Federal Government loans, including joint loans under the National Housing Act 1944 or with loans insured by the Federal Government under the National Housing Act 1954 (see p. 709); and 576 were built with guarantee assistance by the Federal Government.

21.—Dwellings Completed with and without Federal Government Assistance by Province 1954

(Exclusive of the Yukon and Northwest Territories)

Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
With Federal Government Assistance¹.....	171	31	1,180	407	4,297	16,301	1,429	849	3,948	3,434	32,047
Direct Federal Government House Building.....	86	—	130	107	21	616	30	54	352	317	1,713
Housing projects for married Armed Services personnel.....	—	—	119	—	—	158	14	6	526	50	673
Housing projects for government employees.....	86	—	11	7	21	117	16	18	26	43	345
Federal-provincial-municipal projects.....	—	—	—	100	—	341	—	50	—	224	695
Federal Government Loans.....	84	26	1,046	300	4,254	15,591	1,324	673	3,370	3,090	29,758
National Housing Act ²	42	10	1,000	228	4,124	14,741	1,235	532	3,270	2,749	27,931
Veterans' Land Act.....	42	14	42	71	126	835	76	115	88	337	1,746
Canadian Farm Loan Act.....	—	2	4	1	4	15	13	26	12	4	81
Federal Government Guarantees..	1	5	4	—	22	94	75	122	226	27	576
Rental guarantees under the N.H.A.	—	—	—	—	—	—	—	—	—	—	—
Farm Improvement Loans Act....	1	5	4	—	22	94	75	122	226	27	576
Without Federal Government Assistance.....	1,189	157	1,503	1,161	23,066	26,428	3,817	4,162	6,561	6,247	74,291
Totals, Dwellings Completed....	1,360	188	2,683	1,568	27,363	42,729	5,246	5,011	10,509	9,681	106,338

¹ Exclusive of a small number of dwellings built by Federal Government Departments as part of their normal operations.

² Includes 7,345 units completed with loans made by private lending institutions and insured by the Federal Government.

The record volume of house building activity in 1955 was made possible by an ample supply of mortgage funds. Only in the latter part of the year did some tightening take place. For most of the year the ready availability of mortgage money was reflected in a lower level of interest rates. Under the National Housing Act the rate charged on most loans between May and November was 5 p.c., one-quarter of one per cent below the maximum set by regulation. A corresponding decline in conventional rates was also reported.

22.—Net Loans Approved under the National Housing Acts by Province 1951-55

NOTE.—Figures for 1945-50 will be found in the 1955 Year Book, p. 744.

Year and Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
1951—												
Loans.....No.	33	7	173	123	2,630	7,700	1,010	135	1,983	1,124	—	14,918
Dwellings....." 33	7	187	126	4,233	9,416	1,100	137	2,659	1,405	—	—	19,303
Amount.....\$'000 239	41	1,210	869	26,035	63,523	6,810	797	16,162	8,011	—	—	123,697
1952—												
Loans.....No.	26	9	227	167	4,092	12,336	1,380	307	3,486	1,688	—	23,718
Dwellings....." 27	9	260	182	9,117	16,038	1,916	629	4,056	2,089	—	—	34,323
Amount.....\$'000 198	64	2,036	1,438	60,538	123,794	13,159	4,533	28,789	14,535	—	—	249,084

22.—Net Loans Approved under the National Housing Acts by Province 1951-55
—concluded

Year and Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
1953—												
Loans.....No.	158	15	410	308	4,684	13,097	1,558	633	3,738	1,913	—	26,514
Dwellings....."	168	16	1,130	333	7,456	18,839	2,050	832	5,464	2,360	—	38,648
Amount.....\$'000	1,279	124	7,813	2,629	55,459	145,129	14,969	6,231	39,593	17,593	4	290,823
1954—												
Loans.....No.	127	16	480	375	6,975	20,422	1,913	884	4,500	3,882	—	39,574
Dwellings....."	166	16	746	391	9,057	26,170	2,540	1,040	5,649	4,344	—	50,119
Amount.....\$'000	1,665	154	6,075	3,372	81,128	240,683	21,813	9,152	49,321	39,418	—	452,781
1955—												
Loans.....No.	343	31	656	496	8,089	29,538	3,006	1,674	6,499	5,813	4	56,149
Dwellings....."	344	33	778	667	10,876	33,498	3,403	1,982	7,057	6,694	4	65,336
Amount.....\$'000	3,560	311	6,869	5,390	97,899	326,657	29,722	17,010	64,766	63,091	37	615,312

In 1955 institutional lenders approved mortgage loans, of all types, amounting to \$1,171,000,000. This increase comprised a 34 p.c. rise in lending for new housing and a 24 p.c. rise in mortgage loans for other purposes as compared with 1954. Institutional loan approvals for new housing increased from \$635,000,000 in 1954 to \$850,000,000 in 1955. Of this increase \$175,000,000 was under the National Housing Act and the remaining \$40,000,000 on conventional loans, bringing total institutional lending under the Act to \$639,000,000 compared with a total of \$211,000,000 for conventional loans for new housing.

While life insurance companies maintained their over-all position as the main institutional mortgage lenders, the chartered banks became the most active group under the National Housing Act. The banks were responsible for all of the increase in lending under the Act from 1954 to 1955, bringing their share of all such insured lending to 51 p.c. In 1954 when the banks were lending for only part of the year, their share of insured loans was 34 p.c.

The average income of home owners whose dwellings were financed under the Act in 1955 was \$5,207 compared with \$5,065 in 1954. These amounts represent the income of the borrower only and do not include the income of dependants. The average down-payment was \$2,821 compared with \$2,993 in 1954, while the gross debt service, representing monthly payments of mortgage principal and interest and real estate taxes increased from \$918 to \$934. These payments represented, for the average borrower, 18.6 p.c. of income.

Provincial Government Assistance.—As stated previously (*see* p. 711), all provinces except Prince Edward Island had, by July 1955, passed complementary legislation respecting Sect. 36 of the National Housing Act 1954, which provides for joint federal-provincial housing and land assembly projects. In addition separate legislation with respect to housing has been enacted by the Provinces of Quebec and Ontario.

Quebec.—An "Act to improve housing conditions" (S.Q. 1948, c. 6) empowers the Province to pay a subsidy on interest charges in excess of 3 p.c. on new dwellings built between Jan. 15, 1948 and Jan. 15, 1953. An amendment (S.Q. 1951-52, c. 7) extends coverage of the Act to dwellings completed after Jan. 15, 1953. A further amendment (S.Q. 1953-54, c. 7) increases the authorization for expenditures under the Act from \$40,000,000 to \$55,000,000.

Ontario.—The Housing Development Amendment Act 1952 empowers the Province and a municipality to enter into joint housing projects and empowers a municipality to contribute to the cost of a housing project or to issue debentures for the purpose of a housing project without reference to its municipal board or the assent of its electors. For

industries locating in rural areas and in small communities, the Province and municipality may participate with the Central Mortgage and Housing Corporation in the development of joint housing projects, part of the cost of which will be borne by the Corporation. Under certain conditions the Province may expropriate land in municipalities for the purpose of housing projects. The Act came into force Apr. 10, 1952 and amended the Housing Development Act (R.S.O. 1950, c. 174).

Under the Planning Amendment Act 1952 municipalities with an approved official plan may designate an area within the municipality as a redevelopment area and, upon the passage of a bylaw, may acquire land within that area and clear and prepare it for residential, commercial, industrial or other designated purpose. The Act came into force May 1, 1952 and amended the Planning Act (R.S.O. 1950, c. 227).

The Rural Housing Assistance Act 1952 authorizes the establishment of a Crown company—the Rural Housing Finance Corporation—which is empowered to lend and invest mortgage money in order to provide financial assistance in the building of new houses in villages and rural areas. Moreover the Corporation may lend money independently or in co-operation with the Central Mortgage and Housing Corporation or with any approved lending institution. The Act came into force on Apr. 10, 1952.

The Junior Farmer Establishment Act 1952 provides for the establishment of a corporation for the purpose of making loans to assist young qualified farmers in the purchase, development and operation of their farms. The corporation may make loans for the erection and improvement of farm houses. A loan may be secured as first mortgage on farm property and shall not exceed \$15,000, repayable in 25 years. The Act came into force on Apr. 10, 1952.

The Elderly Persons Housing Aid Act 1952 authorizes the Province to make grants to any limited dividend housing corporation approved by a municipality and to which a loan has been made under the National Housing Act. These grants are to assist in the construction and equipment of low rental housing units for elderly persons. The amount of any grant will be based on the lower of \$500 for each dwelling or 50 p.c. of the capital cost of the project to the corporation other than the amount covered by the mortgage loan.

CHAPTER XVII.—SURVEY OF PRODUCTION*

CONSPECTUS

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NOTE.—*The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.*

The scope of the Survey of Production is limited to industries chiefly engaged in the actual production of commodities. The activities of such industries as transportation, communication, trade, finance and service are excluded, except for certain of their costs which are indirectly reflected in the value of output of the commodity producing industries; for instance costs of such business services as insurance, advertising, telephone, etc., to the commodity producing industries are included in the selling or gross value of their products. This is in contrast to the widely used Gross National Product series (see Chapter XXV) which encompasses all industries.

In obtaining the "net" value for each commodity industry the cost of materials, fuel, purchased electricity and process supplies (but not other business services) consumed in the production process is deducted from the selling or gross value of output. The resulting net value of production (or value added) is generally considered more significant as a measure of output than gross value of production and is therefore used in the following analyses and tables.

The measurement of value added is similar, although not strictly comparable, to the concept involved in the contribution of each industry to gross national product at factor cost (net income originating plus depreciation). Apart from variations in the statistical structure the main difference is that value added, as computed for each commodity producing industry, includes the cost of business services as described above. In national income accounting the contribution of these services to gross national product at factor cost is classified to the non-commodity industries from which they originate.

One of the major advantages of the commodity production series is that the statistics may be classified by provinces. With the exception of personal income and its major components the geographical distribution of gross national product is not available mainly because profits cannot be allocated according to the provinces in which they are generated by productive activity. A more detailed explanation of the series is given in the current DBS Bulletin *Survey of Production*.

A recent major revision made in the statistics of the construction industry has affected the comparability of the survey of production figures presented here and in the 1955 Year Book and those presented in earlier editions. A description of that revision together with revised data is given in DBS Bulletin *Survey of Production 1948-52*.

*Prepared in the Business Statistics Section, Research and Development Division, Dominion Bureau of Statistics.

Section 1.—Trends in Commodity Production

The net value of Canadian commodity production during 1953 (the latest year for which final figures are available at the time of going to press) amounted to \$14,538,000,000, an advance of nearly 6 p.c. over the 1952 total. The most important expansionary influence in the economy in 1953 was the continued growth of consumer expenditures, reflecting further increases in "real" incomes. Investment in new construction also showed an impressive gain over 1952 particularly in the housing component. Inventory accumulation was quite substantial, reflecting a shift from a position of net liquidation of business inventories in 1952 to one of considerable build-up in 1953. Defence expenditure, which in the preceding two years was one of the key factors in the total expansion of output, rose only moderately in 1953 and the value of exports showed a moderate decline.

Preliminary data for 1954 indicate a decrease in the net value of commodity production for the first time since 1945. A number of factors lay behind this development including: a sharp drop in agricultural production; a turnaround of business inventories from the substantial build-up in 1953 to a position of net liquidation; a decrease in business outlays for plant, machinery and equipment; a decline in exports; a reduction in defence expenditures; and lower demand for consumer durable goods. These downward pressures were partly counterbalanced by continued strong demand for non-durable goods and a considerable increase in outlays for new housing. The advance data by industries indicate that the net value of agricultural output dropped by about 28 p.c. in 1954 while other primary industries advanced—mineral production (in volume terms) by nearly 13 p.c., electric power by more than 5 p.c., the volume of seafish landings by nearly 10 p.c. The forestry industry also showed some gain in output. On the other hand the net value of manufacturing production declined by about 2 p.c., the major decreases occurring in the durable goods industries of iron and steel products and transportation equipment. A moderate increase was recorded by non-durable manufacturing industries despite considerable declines in textiles, clothing and rubber goods. The net value of construction increased slightly as compared with the previous year.

Section 2.—Industrial Distribution of Production

In the five years from 1949 to 1953 inclusive the total net value of commodity production increased by nearly 46 p.c., an advance contributed to by sustained demand for consumer goods both at home and abroad, by the industrial and resource development programs and by the expansion of defence industries. All industrial groups except trapping increased during the period.

The contribution of the primary industries to the total commodity production declined from 33 p.c. in 1949 to 28 p.c. in 1953, almost wholly as a result of the fall-off in the proportion contributed by the agriculture industry from 20 p.c. to 15 p.c. during the period. The net value of agricultural output in 1953 at \$2,241,316,000 was 11 p.c. higher than in 1949 but was well below the record value of \$2,653,678,000 achieved in 1951 and also below the 1952 total. Although the 1953 wheat crop was very large it was considerably smaller than the extraordinary 1952 crop.

Operations in the woods recorded a steady advance from 1949 to 1952 but declined in 1953; the net value of forestry production in the latter year was 46 p.c. higher than in 1949 but about 5 p.c. below the peak of 1952. The fall-off in 1953 was attributable in large measure to a decline in the external demand for pulpwood and mining timber. The value of the primary fisheries industry reached a peak in 1951 and then declined in the next two years; the drop in 1952 was mainly caused by a decline in seafish landings and that in 1953 by lower prices for fishery products. Since 1951 the net value of the trapping industry has been declining.

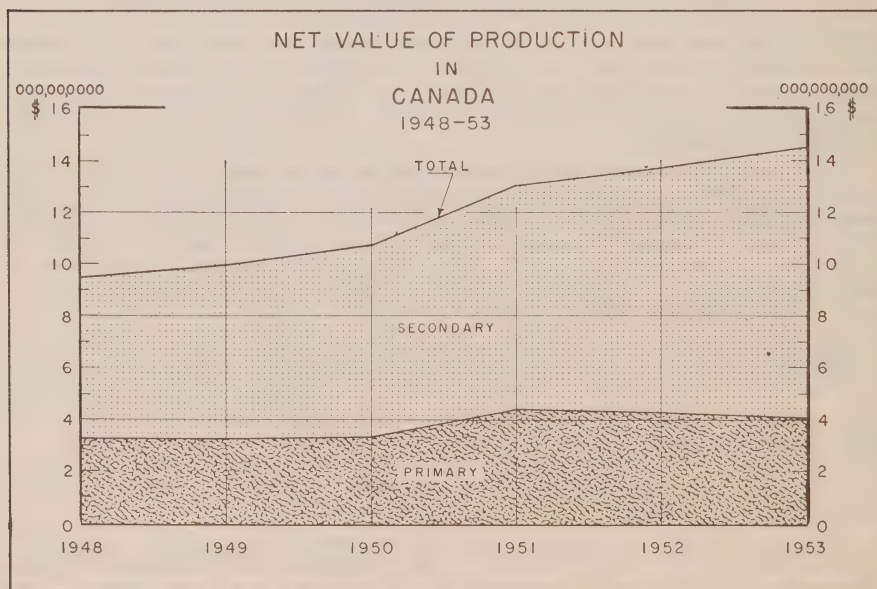
The net value of the mining industry advanced each year from 1949 to a record high of \$791,000,000 in 1953, a 39 p.c. increase. Fuel production recorded the greatest advance by more than doubling during the period, an increase much more than accounted for by

a 300 p.c. advance in the output of petroleum. The volume output of metals rose steadily from 1949 to 1952 but fell off by about 2 p.c. in 1953 as a result principally of labour disputes in gold mining; over the five year period production of iron ore increased by 77 p.c. Asbestos was the main contributor to the 50 p.c. increase in the output of industrial minerals during the period. The output of electric power increased from 1949 to 1953 by more than 40 p.c. in volume and 66 p.c. in value.

The contribution of secondary production (manufacturing and construction) to the total commodity output advanced during the 1949-53 period from 67 p.c. to 72 p.c., mainly as a result of the very extensive construction activity during the period. In 1953 the construction industry contributed nearly 17 p.c. to the aggregate of net value compared with less than 14 p.c. in 1949 and the manufacturing industry's share rose from 53 p.c. to 55 p.c. in the same comparison.

The net value of manufacturing production increased 50 p.c. in the 1949-53 period—durable manufactures by 65 p.c. and non-durables 38 p.c. Among the durable industries, output of transportation equipment more than doubled in value, that of electrical apparatus and supplies and non-metallic mineral products advanced 70 p.c. and 67 p.c. respectively, and production of iron and steel products gained 50 p.c. In the non-durables sector petroleum and coal and rubber products recorded the highest value increases, the former a gain of 80 p.c. and the latter one of 70 p.c. Leather products, textiles and clothing were among the industries showing moderate increases.

The construction industry recorded the greatest proportionate gain of all major commodity producing industries during the 1949-53 period. The net value increased by 79 p.c. from \$1,371,000,000 to \$2,454,000,000 as building activity and construction costs continued their postwar advances. Investment in non-residential construction rose at a much faster rate than that in housing, following the major advances in industrial and resource development.



1.—Net Value of Production by Industry 1949-53

NOTE.—Net production represents total value under a particular heading, less the cost of materials, fuel, purchased electricity and supplies consumed in the production process. Data for fisheries and trapping represent total value.

Industry	1949	1950	1951	1952	1953
	\$	\$	\$	\$	\$
Primary Industries	3,288,831,359	3,340,607,328	4,395,576,396	4,307,614,557	4,090,791,145
Agriculture.....	2,019,279,000	1,883,036,000	2,653,878,000	2,489,860,000	2,241,316,000
Forestry.....	346,455,391	389,500,000	486,293,276	531,206,730	506,080,503
Fisheries.....	67,457,941	82,191,043	102,026,979	92,892,725	90,256,000
Trapping.....	15,296,615	15,204,419	19,791,933	14,137,820	13,221,035
Mining.....	570,215,430	657,328,669	770,143,233	777,443,771	790,596,855
Electric power.....	270,126,982	313,347,197	363,642,975	402,073,511	449,320,752
Secondary Industries	6,701,566,434	7,417,058,229	8,679,220,783	9,420,236,199	10,447,101,351
Manufactures.....	5,330,566,434	5,942,058,229	6,940,946,783	7,443,533,199	7,993,069,351
Construction.....	1,371,000,000	1,475,000,000	1,738,274,000	1,976,703,000	2,454,032,000
Totals	9,990,397,793	10,757,665,557	13,074,797,179	13,727,850,756	14,537,892,496

¹ Data for Newfoundland exclude agriculture, fisheries, trapping and fish processing in 1949 and 1950 but include fisheries and fish processing in 1951, 1952 and 1953 and trapping in 1952 and 1953.

2.—Percentage Analyses of the Net Value of Production by Industry 1949-53

Industry	Net Value in (1949=100)					Percentage of Total Net Production				
	1949	1950	1951	1952	1953	1949	1950	1951	1952	1953
Primary Industries	100-0	101-6	133-7	131-0	124-4	32-9	31-1	33-6	31-4	28-1
Agriculture.....	100-0	93-3	131-4	123-3	111-0	20-2	17-5	20-3	18-1	15-4
Forestry.....	100-0	112-4	140-4	153-3	146-1	3-5	3-6	3-7	3-9	3-5
Fisheries.....	100-0	121-8	151-2	137-7	133-8	0-7	0-8	0-8	0-7	0-6
Trapping.....	100-0	99-4	129-4	92-4	86-4	0-1	0-2	0-1	0-1	0-1
Mining.....	100-0	115-3	135-1	136-3	138-6	5-7	6-1	5-9	5-7	5-4
Electric power.....	100-0	116-0	134-6	148-8	166-3	2-7	2-9	2-8	2-9	3-1
Secondary Industries	100-0	110-7	129-5	140-6	155-9	67-1	68-9	66-4	68-6	71-9
Manufactures.....	100-0	111-5	130-2	139-6	149-9	53-4	55-2	53-1	54-2	55-0
Construction.....	100-0	107-6	126-8	144-2	179-0	13-7	13-7	13-3	14-4	16-9
Totals	100-0	107-7	130-9	137-4	145-5	100-0	100-0	100-0	100-0	100-0

Section 3.—Provincial Distribution of Production

All provinces and territories had a higher net value of production in 1953 than in 1949. Alberta showed the greatest proportionate advance with a gain of 60 p.c. British Columbia, Quebec and Ontario followed with increases of 49 p.c., 48 p.c., and 47 p.c. respectively. Net output in Saskatchewan rose by 38 p.c. and the other provinces recorded more moderate advances.

Newfoundland.—The net value of commodity production in Newfoundland in 1953, exclusive of agriculture, amounted to about \$154,000,000, a little more than 1 p.c. of the Canadian total. In this Province factory output, mainly pulp and paper and processed fish, made up 38 p.c. of the total commodity production. Construction was next in importance, followed by forestry and mining. Primary fisheries represented about 8 p.c. of the provincial output.

Prince Edward Island.—The output of Prince Edward Island was a little more than 10 p.c. higher in 1953 than in 1949. Its net value in the later year made up about 0.2 p.c. of the total Canadian output. The economy of the Province is mainly agricultural, farm output in 1953 accounting for half of the net value of production and consisting mainly of livestock, potatoes and dairy products. Construction and manufactures made up the bulk of the non-farm output.

Nova Scotia.—The net value of production in Nova Scotia advanced 25 p.c. from 1949 to 1953 and represented 2.3 p.c. of the national total in the years 1951-53. In 1953 manufacturing accounted for 39 p.c. of the Province's production, primary iron and steel, shipbuilding, fish processing, pulp and paper and sawmills being the leading industries. Construction's share in the same year was 22 p.c., mining 16 p.c. and agriculture 10 p.c. In recent years coal mining has contributed about 80 p.c. of the value of the mineral output, and livestock, dairy products, poultry and eggs are the principal farm products.

New Brunswick.—The value of commodity output in New Brunswick increased by over 22 p.c. in the 1949-53 comparison and in recent years has accounted for about 2 p.c. of the Canadian aggregate. In 1953 manufacturing made up 46 p.c. of the provincial output, the predominant industries being pulp and paper, sawmilling, shipbuilding and fish processing. Agriculture and forestry, the most important primary industries, accounted for 15 p.c. and 10 p.c. respectively of the net output while construction represented 20 p.c.

Quebec.—The increase in Quebec's commodity production from 1949 to 1953 amounted to 48 p.c. and the Province's total in 1953 made up 26 p.c. of the Canadian output. In that year manufacturing represented nearly 64 p.c. of the provincial production. Pulp and paper was most important among the industries, accounting for 10 p.c. of their output, but highly important also were metal smelting and refining, aircraft, railway rolling stock, clothing and textiles. Agriculture's share of the provincial output was lower in 1953 than in 1949, having decreased from 11 p.c. to 8.5 p.c. but construction on the other hand rose from 12 p.c. to 15.4 p.c.

Ontario.—The net value of commodity production in Ontario increased from \$4,082,000,000 in 1949 to \$5,982,000,000 in 1953 or by nearly 47 p.c. The Province's share of the Canadian total was 41 p.c. in the later year, a proportion little changed during the period. The economy of this Province is dominated by manufacturing which represented 69 p.c. of the output in 1953 as compared with 66 p.c. in 1949. The manufacturing industries that contributed more than \$100,000,000 to the value of output in 1953 included (in order of importance): motor vehicles, pulp and paper, primary iron and steel, metal smelting and refining, aircraft, heavy electrical machinery, rubber products and motor vehicle parts. Agriculture accounted for 9 p.c. of the provincial total and construction for 14 p.c. in 1953.

Manitoba.—In 1953 Manitoba's net value of production, at \$573,000,000, was 19 p.c. higher than in 1949 and accounted for 4 p.c. of the total value for Canada. Manufacturing, dominated by the slaughtering and meat packing industry and the railway rolling stock industry, represented 40 p.c. of the provincial output. The proportion accounted for by agriculture dropped from 42 p.c. in 1949 to 30.5 p.c. in 1953 while that accounted for by construction advanced from 15 p.c. to 21.5 p.c. over the period.

Saskatchewan.—The economy of Saskatchewan is largely dependent on agriculture which normally accounts for about 75 p.c. of the Province's net value of production. The fact that the 1953 wheat crop, although one of the largest on record, was considerably below the high level of 1952 contributed to an appreciable decline in provincial output in the later year. However compared with 1949 the value of production in 1953 was higher by more than 38 p.c. and accounted for 6 p.c. of the Canadian total. Manufacturing activity, consisting mainly of petroleum refining, meat packing, flour mills, breweries and butter and cheese factories represented 9 p.c. of the provincial output. In this Province also construction showed a higher relative increase than other industries in the 1949-53 period and represented nearly 14 p.c. of the provincial output in 1953.

Alberta.—Alberta's commodity output in 1953 represented over 8 p.c. of the national total and was 60 p.c. higher than in 1949. Because of the rapid advance in the value of mineral production and in construction activity, agriculture has progressively declined in relative importance since 1949 when it accounted for 48 p.c. of the provincial total as compared with 36 p.c. in 1953. The net value of the mining industry more than doubled in the five year comparison and in 1953 represented over 19 p.c. of the Province's output. Manufacturing, particularly petroleum refining, meat packing, sawmilling and brewing, also advanced considerably, amounting to 17 p.c. of the 1953 total. Construction stood second among the Province's industries in the five year period and in 1953 accounted for 25 p.c. of the total commodity production compared with 19 p.c. in 1949.

British Columbia.—The net value of output in British Columbia, which represents about 9 p.c. of the national commodity production, increased from \$884,000,000 in 1949 to \$1,320,000,000 in 1953, a gain of more than 49 p.c. It is the third ranking province in value of net output. Manufacturing is the leading industry and accounted for nearly 47 p.c. of the provincial total in 1953, a proportion little changed since 1949. The principal manufacturing industries are sawmilling, pulp and paper, veneers and plywoods, fish processing, fertilizers and shipbuilding. Construction ranked second in value of output in the Province and represented 23.5 p.c. of the total in 1953; forestry accounted for 12 p.c. and mining for 6 p.c. The considerable decline in the mining industry from 9 p.c. in 1952 reflected the sharp drop in the price of zinc and lead, two of the Province's most important metals.

3.—Net Value of Production by Province 1949-53

Province or Territory	1949	1950	1951	1952	1953
	\$	\$	\$	\$	\$
Newfoundland ¹	79,682,122	97,238,222	136,110,998	150,017,395	153,778,875
Prince Edward Island.....	30,740,835	30,819,330	36,505,157	41,885,507	33,871,395
Nova Scotia.....	263,590,743	259,731,738	296,791,447	315,862,673	329,809,293
New Brunswick.....	214,942,563	242,111,904	268,285,055	266,679,144	262,819,872
Quebec.....	2,567,996,801	2,816,309,229	3,337,598,876	3,608,148,129	3,803,737,287
Ontario.....	4,082,002,159	4,534,265,812	5,277,350,439	5,478,804,812	5,982,280,163
Manitoba.....	481,862,653	483,805,980	569,952,272	580,423,733	573,342,004
Saskatchewan.....	641,086,461	546,960,335	891,151,432	968,227,491	886,956,343
Alberta.....	731,033,750	734,148,363	1,002,712,967	1,059,383,938	1,170,494,277
British Columbia ²	884,820,749	995,233,672	1,240,224,661	1,239,008,819	1,319,826,559
Yukon and Northwest Territories ²	12,638,957	17,040,972	18,113,875	19,409,115	20,976,428
Canada.....	9,990,397,793	10,757,665,557	13,074,797,179	13,727,850,756	14,537,892,496

¹ Newfoundland data exclude agriculture, fisheries, trapping and fish processing in 1949 and 1950 but include fisheries and fish processing in 1951, 1952 and 1953 and trapping in 1952 and 1953. ² Forestry and construction figures for the Yukon and Northwest Territories are included with British Columbia.

4.—Percentages of Total Net Production by Province 1949-53

Province	1949	1950	1951	1952	1953
	p.c.	p.c.	p.c.	p.c.	p.c.
Newfoundland ¹	0.8	0.9	1.0	1.1	1.1
Prince Edward Island.....	0.3	0.3	0.3	0.3	0.2
Nova Scotia.....	2.6	2.4	2.3	2.3	2.3
New Brunswick.....	2.2	2.2	2.0	2.0	1.8
Quebec.....	25.7	26.2	25.5	26.3	26.2
Ontario.....	40.9	42.1	40.4	39.9	41.1
Manitoba.....	4.8	4.5	4.4	4.2	3.9
Saskatchewan.....	6.4	5.1	6.8	7.1	6.1
Alberta.....	7.3	6.8	7.7	7.7	8.1
British Columbia ²	8.9	9.3	9.5	9.0	9.1
Yukon and Northwest Territories ²	0.1	0.2	0.1	0.1	0.1
Totals.....	100.0	100.0	100.0	100.0	100.0

¹ Newfoundland data exclude agriculture, fisheries, trapping and fish processing in 1949 and 1950 but include fisheries and fish processing in 1951, 1952 and 1953 and trapping in 1952 and 1953. ² Forestry and construction figures for the Yukon and Northwest Territories are included with British Columbia.

5.—Net Value of Production and Percentage Analysis by Province 1953

Industry	Newfoundland		Prince Edward Island		Nova Scotia		New Brunswick	
	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
Agriculture.....	...	...	16,974	50.1	32,977	10.0	39,241	14.9
Forestry.....	21,247	...	126	0.4	9,166	2.8	25,994	9.9
Fisheries.....	12,015	...	2,870	8.5	21,862	6.6	6,910	2.6
Trapping.....	62	...	4	—	227	0.1	84	—
Mining.....	20,917	...	—	—	51,234	15.5	7,305	2.8
Electric power.....	3,993	...	1,194	3.5	13,791	4.2	10,217	3.9
Manufactures.....	57,785	...	5,879	17.4	127,917	38.8	120,617	45.9
Construction.....	37,820	...	6,824	20.1	72,634	22.0	52,452	20.0
Totals.....	153,779	...	33,871	100.0	329,809	100.0	262,820	100.0
	Quebec		Ontario		Manitoba		Saskatchewan	
	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
Agriculture.....	321,671	8.5	536,302	9.0	174,749	30.5	632,758	71.3
Forestry.....	164,166	4.3	103,382	1.7	6,522	1.1	3,863	0.4
Fisheries.....	3,385	0.1	7,027	0.1	2,717	0.5	553	0.1
Trapping.....	1,288	—	3,869	0.1	2,116	0.4	2,121	0.2
Mining.....	152,132	4.0	184,516	3.1	12,216	2.1	32,891	3.7
Electric power.....	150,030	4.0	164,347	2.7	22,084	3.8	14,630	1.7
Manufactures.....	2,424,647	63.7	4,130,126	69.0	229,797	40.1	79,941	9.0
Construction.....	586,418	15.4	852,710	14.3	123,140	21.5	120,199	13.6
Totals.....	3,803,737	100.0	5,982,280	100.0	573,342	100.0	886,956	100.0
	Alberta		British Columbia		Yukon and Northwest Territories		Canada	
	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
Agriculture.....	418,053	35.7	68,591	5.2	—	—	2,241,316	15.4
Forestry.....	9,371	0.8	162,243	12.3 ¹	1	...	506,081	3.5
Fisheries.....	667	0.1	31,780	2.4	470	2.2	90,256	0.6
Trapping.....	1,617	0.1	709	0.1	1,124	5.4	13,221	0.1
Mining.....	227,332	19.4	85,098	6.4	16,955	80.8	790,597	5.4
Electric power.....	22,414	1.9	45,265	3.4	1,415	6.8	449,321	3.1
Manufactures.....	199,660	17.1	615,686	46.7	1,012	4.8	7,993,069	55.0
Construction.....	291,380	24.9	310,455	23.5 ¹	1	...	2,454,032	16.9
Totals.....	1,170,494	100.0	1,319,827	100.0	20,976	100.0	14,537,892	100.0

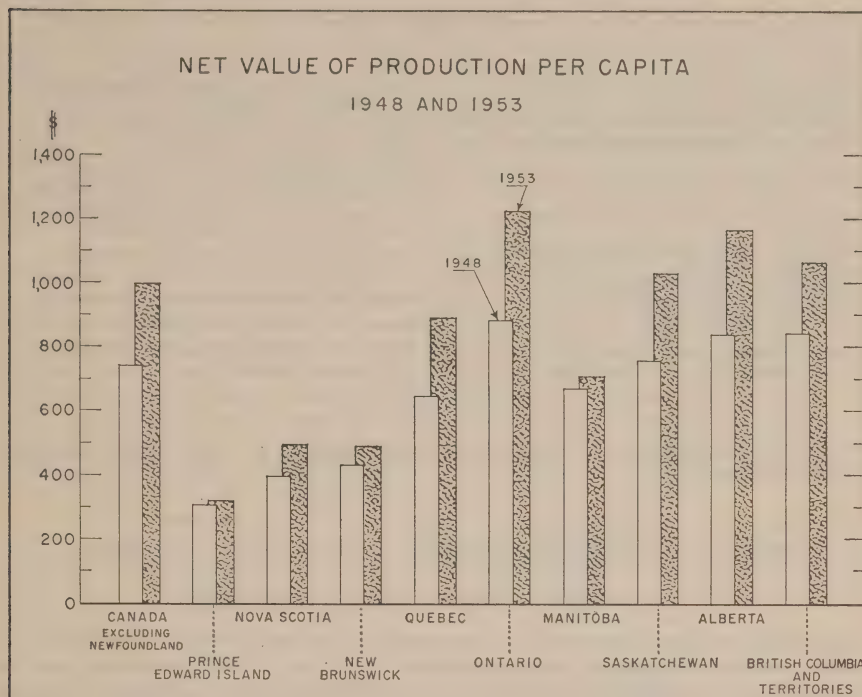
¹ Forestry and construction figures for the Yukon and Northwest Territories are included with British Columbia.

Section 4.—Per Capita Net Value of Production

The advance in the net value of commodity production in the years from 1949 to 1953 was accompanied by a 10 p.c. increase in population and a 7 p.c. increase in the labour force. The national per capita net value of commodity output (exclusive of Newfoundland) increased from \$756 to \$999 during the period, an advance of more than 32 p.c. As wholesale prices rose by only 11 p.c. during this period, a substantial "real" gain in per capita output of goods is indicated.

Ontario has consistently been in first place among the provinces in per capita output, recording an average of \$1,222 in 1953 which was more than 22 p.c. above the national figure. Alberta, also consistently above the national figure, came second in 1953 with an average 17 p.c. higher and British Columbia, with its well diversified economy, ranked third with an average 7 p.c. higher than the national per capita output. Saskatchewan's average fluctuates widely with the size of the crop return and in 1953 was 3 p.c. above the national average after having been 19 p.c. higher in 1952. Quebec's per capita production averaged 10 to 13 p.c. below the Canadian figure in the 1949-53 period and Manitoba's

was also consistently lower, standing 29 p.c. under the national average in 1953. The Maritime Provinces have always been far below the Canadian average in per capita output, being less than 50 p.c. of it in 1953.



6.—Per Capita Net Value of Production with Percentage Variation from the National Average by Province 1949-53

Province	1949		1950		1951		1952		1953	
	Per Capita Net Value	Variation	Per Capita Net Value	Variation	Per Capita Net Value	Variation	Per Capita Net Value	Variation	Per Capita Net Value	Variation
	\$	p.c.	\$	p.c.	\$	p.c.	\$	p.c.	\$	p.c.
Prince Edward Island...	327	-56.7	321	-59.8	372	-60.8	407	-57.9	320	-68.0
Nova Scotia.....	419	-44.6	407	-49.0	462	-51.3	484	-49.9	497	-50.3
New Brunswick.....	423	-44.0	473	-40.7	520	-45.1	507	-47.5	490	-51.0
Quebec.....	661	-12.6	710	-11.0	823	-13.2	864	-10.6	891	-10.8
Ontario.....	932	+23.3	1,014	+27.1	1,148	+21.1	1,150	+19.0	1,222	+22.3
Manitoba.....	637	-15.7	630	-21.1	734	-22.6	727	-24.7	709	-29.0
Saskatchewan.....	770	+ 1.9	657	-17.7	1,071	+13.0	1,149	+18.9	1,030	+ 3.1
Alberta.....	826	+ 9.3	804	+ 0.8	1,068	+12.6	1,092	+13.0	1,168	+16.9
British Columbia ¹	789	+ 4.4	872	+ 9.3	1,057	+11.5	1,013	+ 4.9	1,068	+ 6.9
Canada².....	756	...	798	...	948	...	966	...	999	...

¹ Includes the Yukon and the Northwest Territories.

² Excludes Newfoundland because figures are not complete (see footnote 1, Table 4).

CHAPTER XVIII.—LABOUR*

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Section 1.—The Government in Relation to Labour

Subsection 1.—Federal Labour Legislation

The Federal Department of Labour was established in 1900 under the Conciliation Act which provided machinery to aid in preventing and settling labour disputes and required the Department to collect, compile and publish statistical and other relevant information. The Department also assumed the administration of the Fair Wages Policy adopted in the same year for the protection of workmen employed in the execution of Federal Government contracts and on works aided by grants from public funds.

The statutory duty of disseminating information concerning labour and industrial matters is now set out in the Labour Department Act passed in 1909. In addition the Minister is responsible for the administration of the following statutes: Conciliation and Labour Act (1906); Government Annuities Act (1908)†; Government Employees Compensation Act (1918); Fair Wages and Hours of Labour Act (1935); Unemployment Insurance Act (1940); Vocational Training Co-ordination Act (1942); Reinstatement in Civil Employment Act (1946); Merchant Seamen Compensation Act (1946); Industrial Relations and Disputes Investigation Act (1948); and Canada Fair Employment Practices Act (1953). (See also p. 122).

Fair Wages Policy.—The Fair Wages Policy applying to all Federal Government contracts was first set forth in a Resolution of the House of Commons (1900) and later incorporated in an Order in Council and amended from time to time. Wages and hours on contracts for construction are now regulated by the Fair Wages and Hours of Labour Act and Order in Council P.C. 2029 of Dec. 22, 1954. Hours of work on construction

* Except as otherwise noted, this Chapter has been revised under the direction of A. H. Brown, Deputy Minister, Department of Labour, Ottawa.

† Statistics and details of administration under this Act are given at pp. 281-283.

contracts are limited to eight per day and 44 per week, except in an emergency or in exceptional circumstances where exemption is granted by Order in Council; wages to be paid are those current for the type of work in the district or, if there are no current rates, fair and reasonable rates as determined by the Minister of Labour.

Wages and hours of work on contracts for equipment and supplies are also regulated by Order in Council P.C. 2029. The hours of such work must be those fixed by the custom of the trade in the district where the work is performed, or fair and reasonable hours. The wages must be current or fair and reasonable but in no event shall they be less than those established by statute or regulation of the province in which the work is being performed. This Order in Council contains a clause prohibiting discrimination against any person in matters of employment because of that person's race, national origin, colour or religion, or because he has made a complaint or given information with respect to such alleged discrimination.

*Government Prevailing Rate Employees.**—Twenty-six departments and agencies of Government together employ approximately 38,000 (50,000 in summer) non-office workers in public buildings, defence establishments, parks and forests, experimental farms, canal operation, airports and Government vessels, survey parties, special projects, etc. Such positions are exempt from the operations of the Civil Service Act and rates of pay are fixed by the Treasury Board in consultation with the Department of Labour on the basis of prevailing private industry rates for comparable work in the employment area. Data used in the determination of these pay rates are secured from wage surveys made by Industrial Relations Officers of the Department of Labour and wage research conducted by the Economics and Research Branch as well as from collective agreements and information supplied by some provincial Departments of Labour.

The Fair Wages Section of the Industrial Relations Branch also recommends rates of pay for 3,700 commissionaires employed by various government departments and agencies throughout Canada, provides wage data to assist certain Crown corporations in the preparation of their wage schedules, and gives assistance in the establishment of class titles, job descriptions and the application of job evaluation techniques.

Three sets of comprehensive Regulations have been established by the Treasury Board governing the hours of work, overtime, vacations, statutory holidays, sick leave, pensions, etc. for (1) prevailing rate workers generally employed; (2) ships' officers, and (3) ships' crews.

The Industrial Relations and Disputes Investigation Act.—This legislation came into effect by proclamation on Sept. 1, 1948 revoking the Wartime Labour Relations Regulations in effect since March 1944 and repealing the Industrial Disputes Investigation Act which had been in force from 1907 until suspended by the Wartime Regulations in 1944. The Act protects proceedings commenced and decisions, orders and certifications made under the wartime legislation in so far as these involve services authorized by the Act.

The Act applies only to industries within federal jurisdiction, viz., navigation, shipping, interprovincial railways, canals, telegraphs, steamship lines and ferries both international and interprovincial, aerodromes and air transportation, radio broadcasting stations, and works declared by Parliament to be for the general advantage of Canada or of two or more provinces. However the Act provides that provincial authorities if they so desire may enact similar legislation for application to employees within provincial jurisdiction and make mutually satisfactory arrangements with the Federal Government for the administration of such legislation by the federal authorities.

In general the Act in its important features provides that employees and employers shall have the right to organize and bargain collectively and that trade unions may be certified as bargaining agents for employee groups. Trade unions and employers are required, upon notice, to bargain collectively in good faith. The Act provides for invoking collective bargaining negotiations and for the mediation of conciliation officers and conciliation boards

* Statistics on numbers and earnings of prevailing rate and other groups of federal employees exempt from the Civil Service Act are given on pp. 123-132.

in reaching collective agreements. Employees may change bargaining agents at times under conditions specified in the Act which also prescribes conditions affecting the duration and renewal of collective agreements. Collective agreements are required to contain provision for the arbitration of disputes concerning the meaning or violation of such agreements and where such provision is lacking application may be made for its establishment. The Act prohibits unfair labour practices, i.e., the interference with or domination of trade unions by employers or interference, discrimination and coercion in trade union activity. The conditions which must be observed prior to strike and lockout action are provided for in the Act. Industrial inquiry commissions may be appointed to investigate industrial matters or disputes.

The Minister of Labour is charged with the administration of the Act and is directly responsible for the provisions affecting the appointment of conciliation officers, conciliation boards, industrial inquiry commissions, consent to prosecute, and complaints that the Act has been violated or that a party has failed to bargain in good faith.

The Canada Labour Relations Board administers provisions concerning the certification of bargaining agents, the writing of a procedure into a collective agreement for the final settlement of disputes concerning the meaning or violation of such agreement, and the investigation of complaints made to the Minister that a party has failed to bargain collectively.

Detailed statistics concerning activities under the Act may be found in the Annual Report of the Department of Labour. In brief, the Canada Labour Relations Board has received 522 applications for certification since Sept. 1, 1948, 317 of which have been granted, 110 rejected, 81 withdrawn and 14 were pending at Mar. 31, 1955. Of the 317 industrial disputes dealt with under the conciliation provisions of the Act, 259 were settled by conciliation officers and conciliation boards, 25 were not settled, 9 lapsed and 24 were pending at Mar. 31, 1955.

Labour-Management Co-operation Service.—During World War II production committees based on the principle of joint consultation between labour and management were established in many vital industries. Since 1947 the establishment of labour-management production committees in industry has been encouraged and assisted by the Labour-Management Co-operation Service, a section of the Industrial Relations Branch of the Department of Labour. The number of active committees has grown from 526 in 1947 to approximately 1,100. Their activities are directed towards such objects as better understanding between management and labour, improved production efficiency, improved quality, reduction of waste, accident prevention, good housekeeping, and reduction of absenteeism.

Reinstatement in Civil Employment Act.—This Act, which provides for the reinstatement in their civil employment of discharged members of the Armed Forces and other designated persons, was passed in 1946 and is administered by the Department of Labour. In 1954, by the Veterans Benefit Act, the Act was made applicable to certain ex-members of the Special Force and to former members of the regular Forces who have served for a period not exceeding three years since July 5, 1950 and prior to July 1 1955.

Canada Fair Employment Practices Act.—This Act, which came into effect on July 1, 1953, prohibits discrimination in employment based on race, colour, religion or national origin, whether practised by employers or trade unions. It applies only to industries within federal jurisdiction—those covered by the Industrial Relations and Disputes Investigation Act (see p. 725).

This law prohibits acts of discrimination by employers; discrimination by trade unions in regard to membership or employment; the use by employers of employment agencies which practise discrimination; and of advertisements or inquiries in connection with employment which express, directly or indirectly, any limitation, specification or preference as to race, colour, religion or national origin.

Subsection 2.—Provincial Labour Legislation

Labour legislation in Canada is mainly a matter for the provincial legislatures as it usually deals with the contract of service between employer and employee, the contract between members of a trade union which forms the basis of the union, or regulates conditions in local workplaces. The right to contract is a civil right and the British North America Act, which distributes legislative powers between the Parliament of Canada and the provincial legislatures, grants to the provinces power to enact laws in relation to "civil rights" and, with certain exceptions, "local works and undertakings".

In each province a Department of Labour (in Alberta, the Department of Industries and Labour) is charged with the administration of labour laws. Legislation for the protection of miners is administered by departments dealing with mines.

Factory legislation and shops legislation in several of the provinces prohibit child labour, regulate the hours of work of women and young persons and provide for safety and health. Most provinces have minimum wage legislation and maximum hours laws, legislation to ensure freedom of association, to promote collective bargaining and to provide for the settlement of industrial disputes, and legislation dealing with apprenticeship and the licensing of certain classes of workmen. The Industrial Standards Acts of Nova Scotia, New Brunswick, Ontario and Saskatchewan, the Labour Act of Alberta and the Fair Wage Act of Manitoba enable the wages and hours of work agreed upon at a conference of representatives of employers and employees in designated trades to be made the minimum standards throughout the trade concerned. The Quebec Collective Agreement Act permits collective agreements between employers and trade unions to be made binding on all in the industry. The workmen's compensation laws in each province are administered by a board appointed by the Lieutenant-Governor in Council.

Provincial labour legislation enacted in 1955 is outlined in the following paragraphs:—

Newfoundland.—Because of a shortage of qualified stationary engineers, the *Boiler and Pressure Vessel Act* was amended to permit persons undergoing training approved by the Apprenticeship Board to act as shift engineers.

An amendment to the *Apprenticeship Act* permits an apprentice to be indentured to a trade union or an employers' association as well as to an individual employer.

Prince Edward Island.—The *Workmen's Compensation Act* was amended by increasing the amount allowed for funeral expenses from \$150 to \$200 and by raising the allowance to each child under 16 from \$12.50 to \$15 a week.

Provision was made for the setting up of a Department of Labour and a Minister of Labour was named.

Nova Scotia.—A *Fair Employment Practices Act* was passed, effective Jan. 1, 1956, forbidding discrimination by employers with regard to employment and by trade unions with regard to membership on grounds of race, national origin, colour or religion. Application forms, advertisements and written and oral inquiries in connection with employment which express any limitation or preference as to race, national origin, colour or religion are prohibited. The Act does not apply to non-profit organizations, nor to employers with fewer than five employees. An individual claiming to be aggrieved may make a complaint in writing to a designated officer of the Department of Labour, who will inquire into the matter and try to effect a settlement. If he is unsuccessful the Minister of Labour may appoint a Commission of Inquiry known as an Employment Practices Commission to investigate and make recommendations. The Minister may issue an order requiring the Commission's recommendations which may include reinstatement, with or without compensation for loss of employment, to be carried out. Failure to comply with the order is an offence punishable by a fine on summary conviction.

Amendments to the *Coal Mines Regulation Act* set out more detailed requirements with respect to mine rescue corps and apparatus. Members of mine rescue teams must undergo an annual medical examination. Stricter rules for safety lamps are also prescribed.

New Brunswick.—By an amendment to the *Trades Examination Act*, plumbing and pipe fitting are added to the trades for which Boards of Examiners may be appointed for the examination and certification of tradesmen who wish to qualify for journeyman status. Under a new *Plumbing Trade Act*, proclaimed in force Oct. 15, 1955, regulations governing plumbing installations may be made and applied to specific areas. These regulations may provide that only workmen who hold certificates may engage in the plumbing trade in those areas.

Effective Jan. 1, 1956 the compensation rate under the *Workmen's Compensation Act* is raised from 66 $\frac{2}{3}$ p.c. to 70 p.c. of average annual earnings. Coverage is extended to persons employed by school boards or vocational committees as home economics teachers, industrial teachers, shop teachers, maintenance employees, caretakers and bus operators.

An Act was passed to provide assistance to workmen who contracted silicosis during employment in New Brunswick prior to June 1, 1948, when silicosis was designated as an industrial disease under the *Workmen's Compensation Act*.

Quebec.—The *Workmen's Compensation Act* was amended by increasing the monthly pension to a widow from \$45 to \$55 and the special lump sum payable following the death of her husband from \$100 to \$200, by raising the allowance for each child under 18 years of age from \$10 to \$20 and by increasing the amount allowed for funeral expenses from \$175 to \$200.

Ontario.—The *Trench Excavators' Protection Act* passed in 1954 is declared not to apply to the excavation of a trench for a pipeline if the work is done mechanically. Work may be begun on an excavation in order to make repairs or to prevent injury to persons or damage to property without giving prior notice to the municipal inspector, provided that notice is given as soon as practicable. The Sections governing shoring and timbering are amended to relax the requirements to some extent where it is considered that safety is not endangered. At no time may a person be allowed to work alone in a trench more than 20 feet deep unless another person is on duty outside the trench and near at hand.

The Section of the *Fire Departments Act* which governs collective bargaining and arbitration of disputes between a municipal council and a bargaining committee of the full time fire-fighters is amended to provide for the appointment of a single arbitrator to render a binding decision concerning a dispute arising out of the terms of a collective agreement or an arbitration award or concerning an allegation that the agreement or award has been violated. If the parties cannot agree upon an arbitrator within ten days the Attorney-General is to name one.

Manitoba.—The *Fire Departments Arbitration Act* which provides for arbitration of disputes between a certified union of municipal firemen and a municipality was amended to require bargaining to take place in the autumn of the year and to set time limits on the arbitration procedure.

The *Workmen's Compensation Act* was amended to raise to the current level the monthly compensation payable to children receiving compensation according to previous scales.

Saskatchewan.—In the revision of the *Workmen's Compensation Act* the allowance to a widow is raised from \$60 to \$75 a month and the orphan's allowance from \$30 to \$35. The increases apply to all widows and children receiving compensation. The limit of \$100 formerly placed on the amount allowed for transporting a workman's body for burial, where death occurs away from his place of residence, is removed. A higher minimum is fixed for total disability; for permanent total disability the amount is increased from \$20 to \$25 a week and for temporary total disability from \$15 to \$25 a week or average earnings if they are less than that amount.

The *Trade Union Act* was amended to give the Labour Relations Board authority to vary the expiry dates of collective agreements under certain circumstances.

Amendments to the *Minimum Wage Act* and the *Annual Holidays Act* lay down new requirements with respect to an employee who has been given notice of termination of employment. For the period of notice the employee must be paid the sum which he earned during that week or a week's normal wages exclusive of overtime, whichever is greater. Pay in lieu of notice is to be a sum equivalent to normal wages. An employee may not be required or permitted to take his annual holiday during the notice period and payment of holiday pay is not to be deemed wages in lieu of notice.

The *Wages Recovery Act* was amended to provide for the collection of unpaid wages by the Department of Labour on behalf of an employee without recourse to court action. When an inspector of the Department finds wages owing to an employee an information will not be laid if the employer pays the required amount to the Deputy Minister for transmittal to the employee within two days.

Alberta.—A new *Boilers and Pressure Vessels Act* provides that a steam plant carrying a working pressure of 20 lb. p.s.i. or more must be operated under the general supervision of a person holding a valid certificate qualifying him to act as chief steam engineer of the plant and must be under the continuous supervision of a person holding a certificate qualifying him to act as shift engineer. Four classes of engineer certificates, a fireman certificate and a pressure vessel welder certificate are now provided for, as well as special and temporary certificates. A new feature of the Act is the provision for the appointment of a Board of Advisers consisting of five members to report to and advise the Minister of Labour regarding the formulation of regulations and the administration of the Act generally.

A new *Gas Protection Act* applies to domestic installations and equipment but not to public utilities. The actual standards to be followed are to be set out in regulations. The regulations may prescribe plans and specifications governing the design and construction of equipment, prohibit the advertising, sale and use of any specified equipment until it has been inspected and approved, and indicate the precautions to be taken in the sale of such equipment.

A new *Coal Mines Regulation Act* replaces an Act of 1945 and revises the safety measures of the Act in accordance with mining practices.

British Columbia.—The *Apprenticeship and Tradesmen's Qualification Act*, which replaced an Act of 1935, provides for the certification of tradesmen as well as the training of apprentices.

Employment of persons under 21 years of age in a designated trade is prohibited except under contract of apprenticeship (for which the minimum age is 15 years) or written permit from the Minister of Labour. The Act makes the customary provision for a provincial apprenticeship committee to advise the Minister and for supervision of the apprenticeship system by a director of apprenticeship. The director may, on the written application of an employer and prospective apprentice, approve and register an apprenticeship contract in a trade other than a designated trade.

The trades in which certification may be obtained will be designated by the Lieutenant-Governor in Council. Examining boards are to be appointed to conduct examinations, subject to the standards of proficiency and procedures laid down by regulations. To obtain a certificate of proficiency a tradesman must be able to qualify in examination and to submit proof of having completed the requisite period of practical training.

The *Boilers and Pressure-Vessel Act* was amended to bring refrigeration plants within the scope of the Act. It is now provided that the inspection certificate or interim certificate will serve as registration. A new provision for an interim certificate permits the operation of a boiler until an inspection can be made. The Chief Inspector was given authority to require the owner or operator to provide safety appliances or to make any repairs, modifications or additions which he considers necessary in the interests of safety. Before repairs are undertaken the approval of an inspector must be obtained and the boiler or pressure-vessel may not again be put into operation until the inspector is satisfied that it may be operated safely.

Amendments to the *Workmen's Compensation Act* increased from \$20 to \$25 the allowance payable to each child under age 16 and continued to age 18 if the child is regularly attending school. The increase is applicable to all children receiving compensation regardless of the date of accident. The amount fixed as the minimum payment for total disability was raised from \$15 to \$25 a week or to the amount of earnings, if less than \$25 a week.

Regulation of Wages and Hours of Labour under Industrial Standards Legislation and the Quebec Collective Agreement Act.—The Industrial Standards Acts of Nova Scotia, New Brunswick, Ontario and Saskatchewan and the Labour Act of Alberta provide that wages and hours agreed upon at a conference of representatives of employers and employees, called by the Minister of Labour or his representative, may be made legally binding by Order in Council on the industry in the area concerned. The Nova Scotia Act applies only to construction work at Halifax, Dartmouth and Sydney.

In *Nova Scotia* 12 schedules of hours and wages for individual building trades were in force in 1954, all renewals of previous schedules. In *New Brunswick* five schedules for individual building trades were in force in 1954. One new schedule governing carpenters at Edmundston was made binding for the first time and the schedule governing plumbers at Saint John expired in 1953.

In *Quebec*, under the Collective Agreement Act, hours and wages and also apprenticeship, vacations with pay and family allowances provisions, established by a collective agreement voluntarily entered into by employers and unions or groups of employees, may be made legally binding by Order in Council on all employers and employees in the industry in the district covered by the agreement, if the parties are sufficiently representative of the industry. At Mar. 31, 1954, 96 agreements covering 225,681 workers and 21,636 employers had been generalized to apply either throughout the Province or to a certain district. The agreements in force throughout the Province apply to the following industries: building materials, the manufacture of women's cloaks and suits, dresses, millinery, ladies' handbags, men's and boys' clothing, men's and boys' hats and caps, men's and boys' shirts, fine gloves and work gloves, shoes, furniture, paint, corrugated and uncorrugated paper boxes, the tanning industry, the elevator construction industry and the structural iron erection industry. Other agreements concern industries in particular cities or parts of the Province including all building trades and printing trades in large urban centres and many rural districts.

In *Ontario* there were 147 wages and hours schedules in force at Mar. 31, 1954. Throughout the Province schedules were in effect for brewery workers, cloakmakers, the men's and boys' clothing industry, men's and boys' hats and caps, the millinery industry and the hard furniture industry. In the construction industry one schedule covered several building trades in one city and 67 schedules, each for a single trade in a single locality, covered one or more trades in 31 localities. In other industries also schedules were in effect only for certain zones. Bakers, soft furniture manufacturing, coal hoisting, and the coal industry each had schedules in one zone, retail gasoline service in four, taxi drivers in one, and barbers had schedules in 64 zones. During 1954, 11 new schedules were made binding, 10 of which applied to the construction industry including one made binding for the first time, and one to the men's and boys' hat and cap industry.

In *Manitoba* the Fair Wage Act provides similar machinery for fixing wages and hours in any business, trade or undertaking except agriculture. Orders in Council under this legislation have been passed fixing wages and hours in the barbering and hairdressing trades.

In *Saskatchewan* 17 schedules were in effect at Mar. 31, 1954. The schedule for barbers covered the whole Province; others applied to bakers and bakery salesmen, carpenters, electrical workers, painters, shoe repairers and beauty culture operators in one or more areas.

In *Alberta* 28 schedules were in effect during 1954. These governed, in one or more areas, bakers and bakery salesmen, certain individual building trades, dairy employees, garage and service station workers, radio service, laundry and dry cleaning employees and barbers. One new schedule was made binding and one was rescinded during the year.

Regulation of Hours and Annual Holidays.—Five provinces—Ontario, Manitoba, Saskatchewan, Alberta and British Columbia—have statutes that either place absolute limits on working hours or require time and one-half the regular rate to be paid if work is continued after specified limits. There is in addition an Act of limited application in Quebec. In the provinces that have no special hours-of-work legislation, the only statutory regulation of hours, apart from that described on p. 730 under the Industrial Standards Acts and the Quebec Collective Agreement Act, is that imposed by factories Acts, mines Acts and, in Newfoundland, an Act governing shops. In New Brunswick and Quebec the limits imposed by the factories Acts apply only to women and boys under 18 years of age. Several minimum wage Acts give authority for the regulation of hours as well as wages.

In Ontario there is a maximum eight hour day and 48 hour week with certain exceptions. In Alberta the maximum daily and weekly hours in the cities of Calgary, Edmonton, Lethbridge and Medicine Hat are eight and 44; in the remainder of the Province they are eight and 48. In British Columbia hours are limited to eight in a day and 44 in a week. In these three Provinces the Acts apply to most workers except farm labourers and domestic servants. In Saskatchewan the Act requires time and one-half to be paid for work after eight hours daily and 44 hours weekly and applies to workers in all industries except agriculture and domestic service. A Manitoba Act covering most industrial workers in the Province requires time and one-half to be paid for work done after eight hours in a day and after 48 hours in a week for men and 44 hours for women. In all provinces that have Acts regulating hours, longer hours may be worked in an emergency or by permission of the administrative authority.

Six provinces—Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia—have legislation in effect providing for annual holidays with pay for workers in most industries and New Brunswick has legislation requiring annual holidays in the mining and construction industries. In all these provinces except Saskatchewan, workers are entitled to a week's holiday with pay after a year of employment. Two weeks' holiday is given in Saskatchewan after a year of employment, in Alberta after two years and in Manitoba after three. A worker employed for less than a year is entitled, in Quebec, to a half-day for each month of employment and, in Saskatchewan, to one day for each month. Coal miners in Alberta are entitled to one day's holiday with pay for every 20 days worked in a month but not more than two weeks' holiday in a year.

Farm workers are excluded from the holiday provisions in all provinces and domestic servants in all but Manitoba and Saskatchewan. The Manitoba Act excludes independent contractors and railway and express companies under federal jurisdiction. In addition Quebec exempts forest operations workers, public corporation employees, salesmen, janitors and watchmen, and certain part time workers. Ontario exempts professional workers, salesmen, and funeral directors and embalmers. Manitoba and Saskatchewan exempt ranch and market garden employees, and British Columbia exempts professional workers and horticultural workers.

Minimum Wage Regulations.—In Nova Scotia the minimum wage law applies only to women; in Ontario, though the Act applies to both sexes, Orders apply only to women. In Newfoundland, New Brunswick, Manitoba, Alberta and British Columbia there are separate Orders for men and women but in British Columbia many Orders cover both sexes. In Quebec and Saskatchewan all Orders apply to both sexes.

Table 1 shows the minimum rates in effect in July 1955 for several classes of establishments in the principal cities. In Newfoundland, New Brunswick, British Columbia and, with respect to men in Manitoba, the rates set are for the entire Province. Elsewhere rates vary according to zone. The rates given apply to the hours specified or to the normal work week of the establishment, if less, except at Montreal and Winnipeg.

1.—Minimum Wage Rates for Experienced Workers by Sex in Certain Cities, July 1955

Type of Establishment	St. John's, Nfld.	Halifax, N.S.	Saint John, N.B.	Montreal, Que.	Toronto, Ont.	Winnipeg, Man.	Regina, Sask.	Edmonton, Alta.	Vancouver, B.C.
Hours per week.....	48	48	48	48-60 ¹	48	44	44	44	44
	cts. per hour	\$ per week	cts. per hour	cts. per hour	\$ per week	cts. per hour	\$ per week	\$ per week	\$ per week
Factories.....M.	50	—	55 ²	51	—	60	26	26	0-40 ³
F.	35	16-80	40	51	22	55	26	24	0-40 ³
Laundries, etc.....M.	50	—	—	51	—	60	26	26	0-40 ³
F.	35	16-80	40	51	22	55	26	24	0-40 ³
Shops.....M.	50	—	—	51	—	60	26	26	18
F.	35	16-80	40	51	22	55	26	24	18
Hotels, restaurants, etc.	M.	50	—	51 ⁴	—	60	26	26	22
F.	35	16-80	38	51 ⁴	22	55	26	24	22
Beauty parlours.....M.	50	—	—	51	—	60	26	26	25
F.	35	16-80	40	51	22	55	26	24	25
Theatres and amusement places.	M.	50	—	51	—	60	26	26	18
F.	35	16-80	40	51	22	55	26	24	18
Offices.....M.	50	—	—	51	—	60	26	26	—
F.	35	16-80	40	51	22	55	26	24	18

¹ Rates apply to 48 or 54 hours in factories; 48 hours in offices; 54 hours in laundries, shops, beauty parlours and theatres; 60 hours in hotels. ² Applies only to canning or processing of fish, vegetables or fruit. ³ Cents per hour. ⁴ Cooks, 58 cents; bell boys, 30 cents.

Section 2.—The Labour Force*

During World War II up to date information on the size and characteristics of the labour supply was a necessity and to meet the possibility of disturbed economic conditions in the postwar period a current and periodic analysis of the state of employment in Canada was organized. A labour force survey, on a sample basis, was conducted in the autumn of 1945 and quarterly surveys were carried on until November 1952, when the survey was placed on a monthly basis. A multi-stage area sample was used involving the selection of progressively smaller sample areas and ultimately of households. Random methods of choice were used at every stage of selection so that all members of the population had an equal chance of inclusion. The present sample covers about 30,000 households in over 115 different areas of Canada, which include 34 cities having a population of 30,000 or over in 1951 in addition to some smaller urban and various rural areas. The estimates of the labour force are restricted to the civilian labour force; net strength of the Armed Forces is obtainable directly from official sources. Inmates of institutions and Indians living on reserves are excluded.

The labour force surveys provide a classification of persons 14 years of age or over on the basis of their activity, during the week that precedes the beginning of the survey, and who had jobs or were seeking work during the survey week. These divisions of the labour force are defined as follows:—

- (1) **Persons with jobs.**—This category comprises: (a) *persons at work*—those who did any work for pay or profit or who did unpaid work which contributed to the running of a farm or business operated by a relative; and (b) *persons with jobs but not at work*—those who had jobs but did not work because of illness, bad weather, vacation, industrial dispute or temporary layoff with definite instructions to return to work within 30 days of the time of being laid off. Persons who worked part of the survey week and also looked for work are classed as "persons with jobs".

* Details of the labour force, as defined in the 1951 Census, relative to age, sex and occupation groups are given in the 1954 Year Book, pp. 692-704.

- (2) **Persons without jobs and seeking work.**—This classification includes those persons who were looking for work during the survey week and did not work. Persons who were temporarily away from their jobs during the whole of the survey week seeking other work were considered as without jobs and were included in this category. In addition to those who were actively looking for work, this classification includes persons who would have looked for work, except that they were temporarily ill, were on indefinite or prolonged layoff, or believed that no work was available.

Information relating to the population 14 years of age or over not in the labour force is also collected. Persons not in the labour force include such groups as those going to school or keeping house in their own homes, persons who are permanently unable to work because of old age or other reason, and persons who are retired or voluntarily idle. Persons such as housewives, students and others who worked part time are classed as "persons with jobs" or, if looking for work, they are classed as "persons without jobs and seeking work".

The estimates derived from the labour force surveys are subject to sampling error. In general the percentage error tends to decrease as the size of the estimate increases. The chances are about 19 out of 20 that the difference between the estimate and the figure which would have been obtained from a complete count is less than that shown below.

<i>Size of Estimate</i>	<i>Sampling Variability</i>
50,000.....	8,000
100,000.....	11,000
500,000.....	25,000
1,000,000.....	33,000
5,000,000.....	54,000

Data in Table 2 for June 1, 1946 to 1955 are compiled from labour force surveys conducted in late May or early June of those years. The information for years before 1946 is taken from estimates based upon 1931 and 1941 Census material rearranged according to the definitional system used in the labour force surveys, the revised census data being linked with the June 1946 survey on the basis of monthly and annual employment and unemployment figures.

2.—Estimates of the Civilian Labour Force and its Main Components, June 1, 1931-55¹

Year	Civilian Popu- lation (14 years of age or over)	Civilian Labour Force (14 years of age or over)						Persons not in the Labour Force (14 years of age or over)	
		Persons with Jobs					Persons without Jobs and Seeking Work		Total Labour Force
		Non-Agriculture			Agri- culture	Total (with jobs)			
		Paid Workers	Other ²	Total (non-agri- culture)					
	'000	'000	'000	'000	'000	'000	'000	'000	
1931.....	7,039	2,006	421	2,427	1,203	3,630	475	2,934	
1932.....	7,163	1,828	381	2,209	1,223	3,432	733	2,998	
1933.....	7,287	1,698	470	2,168	1,243	3,411	817	3,059	
1934.....	7,411	1,910	493	2,403	1,263	3,666	624	3,121	
1935.....	7,539	1,920	532	2,452	1,284	3,736	618	3,185	
1936.....	7,665	1,972	576	2,548	1,304	3,852	565	3,248	
1937.....	7,785	2,085	661	2,746	1,324	4,070	406	3,309	
1938.....	7,912	2,053	625	2,678	1,344	4,022	516	3,374	
1939.....	8,035	2,056	655	2,711	1,364	4,075	523	3,437	
1940.....	8,053	2,173	636	2,809	1,329	4,138	418	3,497	
1941.....	7,969	2,538	476	3,014	1,210	4,224	193	3,552	
1942.....	7,900	2,770	488	3,258	1,127	4,385	134	3,381	
1943.....	7,797	2,906	434	3,340	1,107	4,447	75	3,275	
1944.....	7,856	2,950	369	3,319	1,126	4,445	62	3,349	
1945.....	7,992	2,914	363	3,277	1,134	4,411	72	3,509	

For footnotes, see end of table.

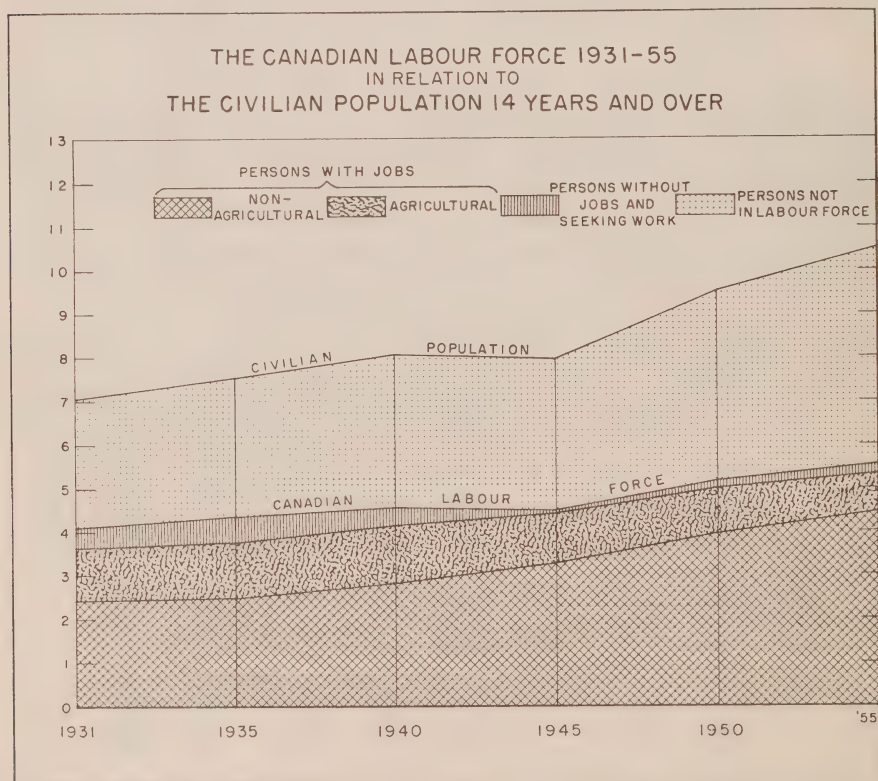
**2.—Estimates of the Civilian Labour Force and its Main Components,
June 1, 1931-55¹—concluded**

Year	Civilian Popu- lation (14 years of age or over)	Civilian Labour Force (14 years of age or over)						Persons not in the Labour Force (14 years of age or over)
		Persons with Jobs					Persons without Jobs and Seeking Work	
		Non-Agriculture			Agriculture	Total (with jobs)		
		Paid Workers	Other ²	Total (non-agri- culture)				
	'000	'000	'000	'000	'000	'000	'000	'000
1946 ³	8,768	2,986	481	3,467	1,271	4,738	124	3,906
1947 ³	8,993	3,139	551	3,690	1,172	4,862	92	4,039
1948 ³	9,123	3,225	543	3,768	1,186	4,954	81	4,088
1949 ³	9,254	3,326	551	3,877	1,114	4,991	101	4,162
1950 ^{3,4}	9,610	3,429	561	3,990	1,066	5,056	142	4,412
1951 ³	9,696	3,625	539	4,164	991	5,155	81	4,460
1952 ³	9,919	3,786	516	4,302	927	5,229	106	4,584
1953 ³	10,114	3,837	531	4,368	897	5,265	115	4,734
1954 ³	10,274	3,776	530	4,306	889	5,195	218	4,861
1955.....	10,506	3,935	516	4,451	873	5,324	213	4,969

¹ Exclusive of persons in institutions and Indians on reserves.
family workers.

² Revised since publication of the 1955 Year Book.

³ Employers, 'own-account' and unpaid
⁴ Newfoundland included from 1950.



Main Characteristics of the Canadian Labour Force 1931-55.*—The civilian population 14 years of age or over (exclusive of persons in institutions and Indians on reserves) increased in the period June 1931 to June 1955 by about 3,216,000 or at a rate of about 134,000 persons a year. The strength of the Armed Services rose very considerably from 5,000 in 1931 and 9,000 in mid-1939 to 779,000 at June 1944 and stood at 117,000 in June 1955. Consequently the civilian population (exclusive of persons in institutions and Indians on reserves) which increased very little from June 1939 to June 1940, declined in size until, in mid-1943, there were 238,000 fewer persons than in 1939. From June 1943 to June 1944 there was a small increase in the civilian population (59,000) as the rate of increase of the Armed Forces levelled off but from 1945 to 1947 the civilian population increased markedly as a consequence of the rapid demobilization of the Forces.

In contrast the civilian labour force maintained its strength notwithstanding large withdrawals to the Forces during the war years. The labour force of June 1942 was 102,000 greater than at June 1941 and that of June 1945 was 66,000 greater owing mainly to replacements from among those who would normally be outside the labour force. The group classed as "not in the labour force" usually represents a fairly constant percentage of the population but during the war years this category reached a low point in 1943 (162,000 persons fewer than the total of 3,437,000 in 1939), increased by 74,000 between mid-1943 and mid-1944 and then moved sharply upward with the decline in wartime employment—by 160,000 from June 1944 to June 1945, and by 355,000 from June 1945 to June 1946.

The number of civilian jobs increased considerably during the War as compared with prewar experience, despite a decline in agricultural employment, and reached a peak of 4,447,000 in June 1943 (372,000 greater than in June 1939). After registering a decline to 4,411,000 during the readjustment period represented by June 1945, the number of jobs continued to increase in postwar years to 5,228,000 in June 1955.

Section 3.—Employment, Payrolls and Hours†

Subsection 1.—Employment and Payrolls by Industrial Divisions

For many years the Dominion Bureau of Statistics has made monthly surveys of employment in the major non-agricultural industries—except for education, health, domestic and personal service, government administration, etc. Statistics are published each month‡ for the following broad industrial divisions and their components: forestry, mining, manufacturing, construction, transportation, storage and communications, public utilities, trade, finance and real estate, and certain services (hotels, restaurants, laundries and dry cleaning plants, etc.). Since 1941 the monthly inquiries have covered the current earnings of those in recorded employment and later a record of weekly payrolls and average weekly earnings was built up on an annual basis for 1939, 1940 and 1941. Since 1944 monthly data on man-hours and hourly earnings have been collected and published. Statistics of the numbers of females employed by the reporting industries have been collected monthly since 1946, replacing the annual and semi-annual surveys which had been conducted since 1942. Following the entry of Newfoundland into Confederation in 1949 the surveys were extended to that Province and separate figures were published from 1950 to 1953. Since then statistics for all ten provinces have been published with 1949 as the base year. In 1953 a special bulletin§ was issued giving historical series (calculated on the 1949 base) for the major industrial groups and geographic regions from 1921 on, and giving detailed information from 1947 on.

Inquiries are limited to establishments usually employing 15 or more persons so that there are variations in the degree to which the surveys cover total employment in different groups. The industrial divisions covered most completely are mining and manufacturing in which 96 p.c. and 89 p.c. respectively of all employment is recorded; the lowest coverage, because of the smaller size of many units, is in services where about 42 p.c. of total employment

* Newfoundland data are available since 1950, but for reasons of comparability with earlier years figures for this Province have been omitted from this analysis.

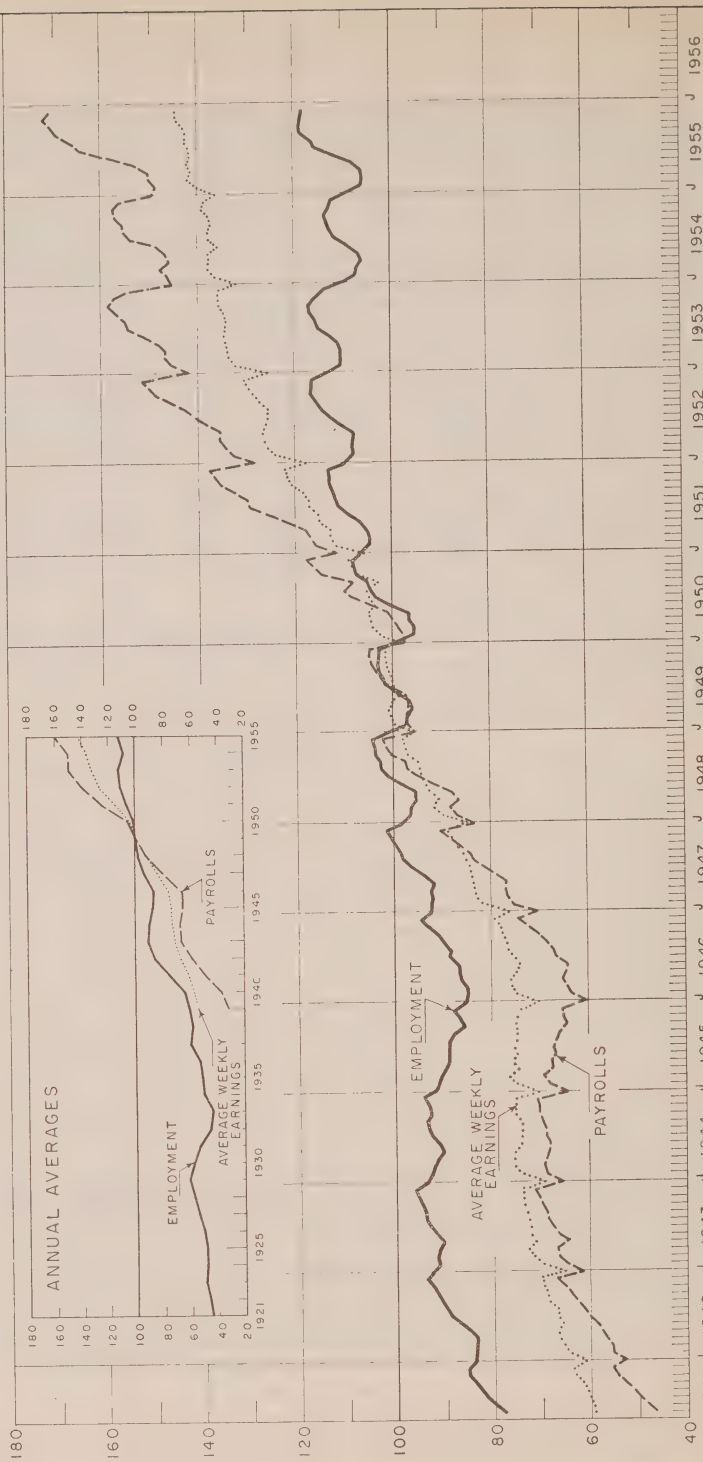
† Prepared in the Employment Section, Labour and Prices Division, Dominion Bureau of Statistics.

‡ DBS Bulletin *Employment and Payrolls*; methods used in preparing current statistics are described therein.

§ DBS Bulletin *Employment, Payrolls and Weekly Earnings, January 1949–June 1953, with Historical Series*.

EMPLOYMENT, PAYROLLS AND AVERAGE WEEKLY EARNINGS 1941-55 (COMPOSITES OF NINE NON-AGRICULTURAL INDUSTRIES)

1949 = 100



in the groups surveyed is in the reporting establishments. There is less variation in the degree to which the provinces are covered but there are some differences partly because of the greater prevalence of small units in some areas. Another factor is the inability of certain large companies to provide an exact distribution of their employees along provincial lines, a fact that tends to exaggerate the apparent coverage in some provinces usually at the expense of the less highly industrialized areas. The province with the highest proportion of employment in reporting establishments is Ontario with 84 p.c. in the industrial groups for which statistics are collected. The lowest coverage, apart from Prince Edward Island which is predominantly agricultural, is in New Brunswick with 67 p.c. The proportion for the ten provinces is 78 p.c.

The postwar period was marked by a rising level of employment in almost all sectors of the economy, an advance which, apart from a few short-run setbacks, was not checked until the last quarter of 1953. Thus 1954 was the first year since 1916 in which industrial employment generally was lower than in the preceding year. The corresponding index figure for payrolls was only slightly below the 1953 level as the decline in employment was almost offset by a continued rise in salary and wage rates.

Although the 1954 index of employment (1949=100) was lower at 109.9 than the 1954 or 1952 indexes of 113.4 and 111.6 respectively, the fall-off did not reflect lessened activity in all sectors of the economy; some industrial divisions showed marked losses in employment and others reported improvement. There were moreover substantial variations in the movements of components of the major industrial divisions. Employment rose in public utility operations, trade, services and in finance, insurance and real estate, but expansion in these divisions was outweighed by curtailment in manufacturing as a whole, construction and transportation, storage and communication. The most marked declines among non-durable manufactures were in the textile products group which, continuing its downward trend of the past few years, reached a figure 20 points below that for 1949, and the clothing group which fell from 101.7 in 1953 to 91.9 in 1954. Among the durables there was a severe contraction in iron and steel products which fell from 111.8 in 1953 to 100.5 in 1954 and in transportation equipment which dropped to 136.2 from 153.0 in 1953. Industrial disputes seriously affected both groups, all subdivisions of which showed lower employment levels. Transportation equipment was also affected by other factors including the levelling off in the defence program, a temporary slump in automobile sales, and decreased demand for railway equipment. The iron and steel group was severely affected by the decline in farm income, reflected in lower demand for agricultural implements, and by decreased demand for capital goods which particularly affected the primary iron and steel sector. Residential construction increased in 1954 but other building work fell off and construction as a whole was well below the 1953 level as a result of the completion of several large industrial and defence projects in the early part of the year.

3.—Annual Average Index Numbers of Employment by Industrial Group 1945-54 and Monthly Indexes 1953 and 1954

NOTE.—These indexes are calculated as at the first day of each month, on the base 1949=100.

Year	Forestry (chiefly log- ging)	Mining	Manu- factur- ing	Con- struc- tion	Trans- porta- tion, Storage and Communi- cation	Public Utility Opera- tion	Trade	Finance, Insur- ance, Real Estate	Service ¹	Indus- trial Compo- site
Averages—										
1945.....	119.7	82.3	100.0	53.8	86.0	61.1	76.2	77.4	81.1	88.8
1946.....	129.9	86.9	91.0	69.5	89.3	71.1	83.4	85.3	88.3	88.2
1947.....	149.6	88.6	97.2	85.6	95.4	76.7	90.2	91.5	94.6	95.7
1948.....	138.4	97.2	100.1	95.4	99.0	89.0	96.3	96.0	99.1	99.7
1949 ²	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1950.....	100.8	105.5	100.9	102.4	99.9	101.3	103.2	105.4	101.0	101.5
1951.....	138.6	110.6	108.0	110.2	106.1	103.4	107.4	115.2	103.1	108.8
1952.....	123.9	116.8	109.3	122.5	110.9	107.5	109.9	121.9	106.6	111.6
1953.....	100.0	111.7	113.3	118.6	111.3	112.1	113.2	122.4	108.7	113.4
1954.....	95.1	109.8	107.7	110.7	109.0	115.7	114.6	127.4	111.4	109.9

For footnotes, see end of table.

3.—Annual Average Index Numbers of Employment by Industrial Group 1945-54 and Monthly Indexes 1953 and 1954—concluded

Year and Month	Forestry (chiefly log- ging)	Mining	Manu- factur- ing	Con- struc- tion	Trans- porta- tion, Storage and Communi- cation	Public Utility Oper- ation	Trade	Finance, Insur- ance, Real Estate	Serv- ice ¹	Indus- trial Com- posite
1953—										
Jan. 1.....	129.5	114.9	111.4	111.3	108.9	108.2	120.4	123.1	106.1	113.0
Feb. 1.....	115.7	114.4	111.9	101.9	105.4	106.4	110.8	123.2	106.3	110.3
Mar. 1.....	103.8	113.4	112.7	93.7	105.1	105.9	110.1	123.3	105.6	110.0
Apr. 1.....	77.8	111.9	112.9	95.9	105.6	106.1	110.9	123.3	106.3	110.0
May 1.....	61.0	111.9	113.1	108.5	109.1	109.4	109.1	122.2	105.9	110.9
June 1.....	83.7	112.1	113.4	119.0	112.2	113.4	110.8	119.3	107.0	112.4
July 1.....	93.6	113.7	114.7	127.5	114.5	117.1	112.0	120.1	111.1	114.9
Aug. 1.....	86.7	114.7	114.4	135.4	115.9	117.8	111.8	120.6	113.1	115.6
Sept. 1.....	88.3	112.3	115.6	139.6	116.7	117.9	111.8	122.4	112.9	116.6
Oct. 1.....	110.7	108.8	115.2	135.8	116.0	115.5	114.2	123.6	112.3	116.9
Nov. 1.....	125.1	107.8	113.1	131.5	114.2	114.1	116.4	123.7	109.6	115.9
Dec. 1.....	124.6	105.1	110.9	122.7	111.5	113.2	120.3	123.7	108.4	114.1
1954—										
Jan. 1.....	108.2	103.6	108.0	105.5	108.2	112.0	119.4	123.8	106.6	109.9
Feb. 1.....	97.7	105.9	108.3	91.7	105.2	110.0	111.3	124.5	105.7	107.0
Mar. 1.....	90.4	108.5	108.3	89.5	105.3	109.4	110.8	124.9	105.7	106.6
Apr. 1.....	69.5	108.2	107.9	89.2	103.1	110.1	111.1	126.0	106.5	105.6
May 1.....	50.8	106.7	107.3	98.2	106.2	111.2	112.4	126.3	108.1	106.2
June 1.....	77.2	108.7	107.7	110.0	108.8	116.0	113.2	126.6	111.1	109.0
July 1.....	90.6	111.5	108.8	118.0	111.5	119.4	114.7	127.3	117.0	111.7
Aug. 1.....	90.4	113.6	108.0	125.4	113.4	121.7	113.9	127.8	118.9	112.3
Sept. 1.....	93.1	112.8	108.3	129.0	113.3	121.9	114.0	129.7	118.9	112.9
Oct. 1.....	115.3	112.6	108.1	127.7	112.3	119.6	116.2	130.7	116.1	113.4
Nov. 1.....	127.3	112.9	106.3	124.0	110.8	119.0	117.4	130.8	112.0	112.5
Dec. 1.....	130.9	112.7	105.4	119.7	109.9	118.3	121.1	130.9	110.6	112.1
Percentage distribution in 1954 ²	2.7	4.0	45.3	9.0	13.6	1.9	14.7	4.8	4.0	100.0

¹ Consists mainly of hotels, restaurants, laundries, dry cleaning establishments and business and recreation service. ² Newfoundland included from 1949. ³ The proportion of employees reported in the industries to the total reported by all employers making returns in Canada (12 month average).

4.—Annual Average Index Numbers of Employment by Industrial Division and Group 1939 and 1950-54

NOTE.—These monthly indexes are calculated as at the first day of the month, on the base 1949=100.

Industry	1939	1950	1951	1952	1953	1954
Forestry (chiefly logging).....	59.3	100.8	138.6	123.9	100.0	95.1
Mining.....	93.7	105.5	110.6	116.8	111.7	109.8
Metal mining.....	100.8	104.9	111.1	118.3	112.0	111.3
Gold.....	132.5	101.1	96.2	94.7	83.6	80.6
Other metal.....	66.9	108.9	126.9	140.7	137.6	139.9
Fuels.....	90.8	101.5	106.1	109.5	105.8	101.4
Coal.....	103.3	96.8	93.8	91.2	83.8	76.8
Oil and natural gas.....	42.5	119.8	153.0	171.8	177.1	183.0
Non-metal.....	72.6	119.7	122.5	132.9	130.7	129.0
Manufacturing.....	56.3	100.9	108.0	109.3	113.3	107.7
Food and beverages.....	63.3	101.1	102.9	105.1	104.6	105.6
Meat products.....	60.8	100.8	104.1	111.7	113.8	113.8
Dairy products.....	61.3	98.9	101.4	102.4	103.6	107.4
Canned and cured fish.....	72.3	102.7	111.5	110.1	94.1	107.2
Canned and preserved fruits and vegetables...	65.6	96.3	106.5	107.3	103.9	104.9

4.—Annual Average Index Numbers of Employment by Industrial Division and Group
1939 and 1950-54—continued

Industry	1939	1950	1951	1952	1953	1954
Manufacturing—concluded						
Grain mill products.....	62.0	99.3	104.9	109.0	102.7	104.7
Bread and other bakery products.....	68.8	101.7	104.6	104.7	106.0	103.6
Biscuits and crackers.....	..	..	..	89.0	97.9	95.8
Distilled and malt liquors.....	48.7	99.2	100.7	100.7	104.2	106.4
Other beverages.....	56.0	108.0	103.5	107.7	109.4	110.3
Confectionery.....	..	..	..	89.0	90.1	87.6
Tobacco and tobacco products.....	87.4	95.9	88.5	85.8	86.6	87.0
Rubber products.....	69.3	103.0	109.0	102.1	109.2	102.2
Leather products.....	81.0	95.6	92.3	92.8	96.6	88.4
Boots and shoes (except rubber).....	81.4	93.1	91.4	94.6	97.5	91.2
Other leather products.....	80.5	100.3	94.2	89.8	95.2	83.1
Textile products (except clothing).....	67.9	101.6	105.2	93.1	94.5	80.6
Cotton yarn and broad woven goods.....	86.4	105.0	112.1	94.8	95.3	79.7
Woolen goods.....	66.8	96.2	96.0	84.2	85.6	67.6
Synthetic textiles and silk.....	49.0	102.9	107.6	93.1	95.6	82.3
Clothing (textile and fur).....	71.3	99.4	101.6	100.0	101.7	91.9
Men's clothing.....	69.3	99.0	101.4	104.1	106.8	95.8
Women's clothing.....	65.0	102.7	105.3	105.4	100.5	94.8
Knit goods.....	82.5	94.7	98.4	87.1	91.4	80.4
Fur goods.....	63.2	99.0	94.6	88.0	91.5	76.6
Hats and caps.....	98.1	101.6	100.2	96.3	96.5	89.6
Wood products.....	60.7	103.9	108.5	101.5	105.5	100.8
Saw and planing mills.....	59.5	106.6	112.7	103.6	106.7	102.3
Furniture.....	61.3	104.3	107.4	101.3	106.9	102.8
Other wood products.....	64.6	92.8	93.5	93.7	98.2	90.5
Paper products.....	58.8	100.6	108.1	108.6	109.8	114.5
Pulp and paper mills.....	62.5	99.3	108.9	111.5	111.3	117.5
Other paper products.....	50.2	103.6	106.1	102.0	106.2	107.2
Printing, publishing and allied industries.....	66.1	104.1	105.4	104.3	106.8	109.7
Iron and steel products.....	45.6	98.4	110.5	113.0	111.8	100.5
Agricultural implements.....	28.7	91.9	96.2	105.5	83.8	65.1
Boilers and plate work.....	48.1	96.2	109.1	122.3	121.5	111.9
Fabricated and structural steel.....	39.1	99.5	112.2	131.5	137.1	127.5
Hardware and tools.....	50.5	97.4	110.2	105.1	108.7	100.9
Heating and cooking appliances.....	54.0	98.4	96.6	84.0	96.9	94.8
Iron castings.....	42.6	96.8	110.1	102.5	100.7	88.9
Machinery manufacturing.....	41.6	97.8	111.8	115.9	115.8	109.4
Primary iron and steel.....	54.1	98.9	114.7	123.9	119.3	98.9
Sheet metal products.....	49.6	105.6	110.3	105.3	110.3	106.1
Wire and wire products.....	68.8	99.5	108.5	103.4	100.2	96.8
Transportation equipment.....	45.9	98.9	115.9	136.7	153.0	136.3
Aircraft and parts.....	31.6	97.6	168.2	282.2	386.2	357.3
Motor vehicles.....	45.6	108.6	116.5	113.3	119.7	105.8
Motor vehicle parts and accessories.....	45.6	108.7	120.9	124.0	131.9	106.9
Railroad and rolling stock equipment.....	56.9	91.0	99.5	111.0	110.3	95.2
Shipbuilding and repairing.....	28.9	91.5	113.4	150.8	173.5	161.2
Non-ferrous metal products.....	48.6	98.0	109.5	110.0	118.1	117.1
Aluminum products.....	23.3	100.0	122.3	117.0	126.9	119.6
Brass and copper products.....	48.9	94.9	103.6	101.2	108.7	103.9
Smelting and refining.....	59.8	101.2	116.3	126.3	129.6	133.2
Electrical apparatus and supplies.....	37.4	107.4	120.7	120.8	135.4	133.7
Non-metallic mineral products.....	46.2	104.7	113.8	110.5	113.5	114.8
Clay products.....	48.2	97.0	102.7	101.4	102.5	101.9
Glass and glass products.....	46.3	106.0	110.5	101.6	117.0	118.1
Products of petroleum and coal.....	65.6	105.4	113.1	119.1	119.4	120.8
Chemical products.....	47.6	102.4	109.6	113.9	116.9	120.9
Medicinal and pharmaceutical preparations.....	47.0	100.8	104.2	103.2	104.7	107.3
Acids, alkalis and salts.....	50.7	103.4	120.0	126.0	120.8	120.5
Other chemical products.....	..	..	..	112.8	118.7	124.3
Miscellaneous manufacturing industries.....	50.2	102.2	101.9	97.9	107.1	105.3
Construction.....	62.0	102.4	110.2	122.5	118.6	110.7
Building and structures.....	29.3	104.7	116.0	127.1	128.2	115.8
Highways, bridges and streets.....	110.5	97.8	97.4	105.6	98.3	102.4
Transportation, Storage and Communication.....	59.8	99.9	106.1	110.9	111.3	109.0
Transportation.....	62.4	98.3	104.3	109.2	109.3	105.2
Air transport and airports.....	18.5	98.6	107.2	126.1	138.9	153.9
Railways.....	65.9	98.4	105.4	110.6	110.3	103.9
Maintenance of equipment.....	55.1	98.0	111.2	120.6	120.7	111.4
Maintenance of ways and structures.....	60.9	97.2	103.0	106.2	102.2	91.8
Transportation—railways.....	66.5	98.3	104.1	108.9	110.1	105.9

4.—Annual Average Index Numbers of Employment by Industrial Division and Group 1939 and 1950-54—concluded

Industry	1939	1950	1951	1952	1953	1954
Transportation, Storage and Communication —concluded						
Transportation—concluded						
Telegraphs.....	65.4	100.3	110.7	118.3	124.4	119.6
Water transportation.....	63.2	90.9	97.1	103.5	99.3	95.4
Electric and motor transportation.....				103.6	107.1	109.9
Urban and interurban transportation.....	56.3	100.3	97.1	94.5	93.4	92.1
Truck transportation.....	54.1	111.1	126.3	133.5	136.8	142.5
Storage.....	73.9	98.5	104.6	111.4	112.2	108.6
Grain elevators.....	79.2	96.8	104.6	111.5	111.9	106.6
Storage and warehouse.....	55.2	103.8	102.4	107.0	112.4	114.9
Communication.....	41.2	107.8	115.2	118.9	121.4	129.0
Radio broadcasting.....		117.6	122.5	129.6	138.0	171.7
Telephone.....	41.3	106.9	114.2	117.1	119.7	125.6
Public Utility Operation	54.9	101.3	103.4	107.5	112.1	115.7
Electric light and power.....	53.1	101.5	106.3	111.3	115.4	118.6
Other public utilities.....	70.0	90.3	81.1	80.6	87.0	98.4
Trade	61.5	103.2	107.4	109.9	113.2	114.6
Wholesale.....	60.2	102.5	108.4	113.2	116.1	116.9
Retail.....	62.3	103.4	106.9	107.9	111.8	113.4
Finance, Insurance and Real Estate	67.8	105.4	115.2	121.9	122.4	127.4
Banking, investment and loan.....	62.9	104.5	117.0	125.4	125.8	131.9
Insurance.....	75.7	106.7	112.0	115.7	116.2	119.7
Service	56.8	101.0	103.1	106.6	108.7	111.4
Hotels and restaurants.....	55.4	99.8	100.9	103.6	104.4	107.6
Laundries and dry cleaning plants.....	63.1	98.9	99.5	101.0	101.4	102.6
Other service.....		103.9	111.7	118.0	133.3	139.0
Industrial Composite	60.1	101.5	108.8	111.6	113.4	109.9

Employment was quieter in 1954 in every province except Saskatchewan, where the general index rose slightly as a result of substantial increases in construction and trade. The greatest proportionate decrease in employment took place in Newfoundland where declines occurred in logging and construction. Quebec, Ontario and Manitoba also showed considerable reductions. The textile, clothing, wood products and iron and steel industries in Quebec reported important losses as did textiles, transportation equipment, iron and steel products and construction in Ontario and transportation equipment in Manitoba.

5.—Annual Average Index Numbers of Employment by Province 1945-54 and Monthly Indexes 1953 and 1954

NOTE.—These indexes are calculated as at the first day of the month, on the base 1949=100.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada ¹
Averages—											
1945.....	..	81.9	101.5	98.6	92.8	86.7	85.3	86.4	76.3	87.5	88.8
1946.....	..	87.2	95.4	98.1	90.4	86.8	89.6	92.2	82.6	83.6	88.2
1947.....	..	93.3	92.1	104.3	97.8	94.7	93.6	97.2	88.1	97.1	95.7
1948.....	..	102.6	99.6	105.2	101.2	98.9	97.2	99.5	93.7	101.3	99.7
1949.....	..	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1950.....	..	110.3	95.6	102.6	100.5	102.7	100.8	100.8	104.5	100.8	101.5
1951.....	111.7	112.6	100.3	109.0	109.2	110.4	103.9	106.0	112.4	106.1	108.8
1952.....	130.2	123.2	104.0	109.5	113.4	112.0	106.0	111.4	120.8	106.7	111.6
1953.....	140.9	116.4	101.2	101.4	112.8	114.7	107.2	116.0	128.5	108.4	113.4
1954.....	128.2	110.1	97.7	97.8	109.2	110.9	104.8	118.0	127.6	106.2	109.9

For footnotes, see end of table.

5.—Annual Average Index Numbers of Employment by Province 1945-54 and Monthly Indexes 1953 and 1954—concluded

Year and Month	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada ¹
1953—											
Jan. 1.....	132.4	116.7	99.3	107.8	113.8	114.5	106.7	113.5	125.7	106.4	113.0
Feb. 1.....	125.3	110.8	101.0	100.6	110.6	113.1	104.0	106.2	121.6	101.0	110.3
Mar. 1.....	117.8	103.7	97.9	98.6	109.7	112.9	102.5	105.7	122.7	102.1	110.0
Apr. 1.....	122.4	104.0	96.9	96.6	108.3	113.2	102.9	105.7	121.6	104.6	110.0
May 1.....	133.6	108.3	97.4	94.8	109.1	113.4	104.8	109.2	123.6	106.5	110.9
June 1.....	144.1	118.8	100.7	99.6	111.8	113.7	106.7	115.1	127.7	108.1	112.4
July 1.....	154.7	119.6	103.9	100.4	113.7	115.7	109.3	119.7	131.3	111.6	114.9
Aug. 1.....	156.6	124.6	104.2	105.4	114.0	115.4	110.5	123.3	135.2	114.2	115.6
Sept. 1.....	156.0	124.7	104.0	107.1	115.6	116.5	111.1	123.3	135.6	114.7	116.6
Oct. 1.....	157.4	119.8	104.7	102.2	116.2	117.1	110.5	123.9	135.0	114.6	116.9
Nov. 1.....	149.8	125.2	103.9	101.9	116.3	116.3	108.7	124.1	132.4	110.2	115.9
Dec. 1.....	141.2	121.1	100.2	102.3	114.6	114.8	108.8	122.7	130.1	107.1	114.1
1954—											
Jan. 1.....	125.4	105.8	97.5	99.7	108.7	112.3	104.7	115.9	124.7	103.2	109.9
Feb. 1.....	113.4	96.0	95.4	97.6	105.7	110.8	100.9	109.5	118.3	97.5	107.0
Mar. 1.....	112.3	102.4	95.2	96.8	105.2	110.2	99.6	108.7	119.4	98.5	106.6
Apr. 1.....	113.1	93.4	93.3	91.3	103.5	109.0	99.9	107.4	118.5	101.8	105.6
May 1.....	117.9	97.6	92.8	90.2	104.5	109.0	100.4	110.0	119.0	103.2	106.2
June 1.....	122.2	111.0	96.1	95.4	107.7	110.7	103.2	116.9	124.7	106.3	109.0
July 1.....	134.9	115.1	99.2	97.8	110.6	112.2	106.2	123.0	130.9	109.2	111.7
Aug. 1.....	139.1	119.4	100.2	101.0	110.9	111.3	108.5	127.7	137.0	112.0	112.3
Sept. 1.....	139.2	121.2	101.0	100.5	112.2	111.6	109.1	126.5	136.4	113.1	112.9
Oct. 1.....	143.5	120.6	101.5	102.0	113.8	111.8	109.2	123.6	135.5	112.6	113.4
Nov. 1.....	141.1	121.5	101.2	99.9	113.5	110.8	107.9	123.9	133.6	110.3	112.5
Dec. 1.....	136.4	117.8	98.5	101.9	113.7	110.8	107.6	123.5	133.7	107.1	112.1
Percentage distribution in 1954 ²	1.6	0.2	3.4	2.3	28.4	42.4	5.1	2.5	5.2	8.9	100.0

¹ Exclusive of Newfoundland prior to 1949. ² The proportion of employees reported in the provinces to the total reported by all employers making returns in Canada (12 month average).

Employment in five of the eight metropolitan areas shown in Table 6 was lower in 1954 than in the preceding year. The declines, as stated on p. 740, were mainly concentrated in iron and steel products, transportation equipment and textiles. Nearly all of the urban centres for which data are published in the monthly reports reported lower employment in 1954 than in 1953.

6.—Annual Average Index Numbers of Employment by Metropolitan Area 1945-54 and Monthly Indexes 1953 and 1954

NOTE.—These indexes are calculated as at the first day of the month, on the base 1949=100.

Year	Montreal	Quebec	Toronto	Ottawa-Hull	Hamilton	Windsor	Winnipeg	Vancouver
Averages—								
1945.....	90.4	109.3	86.7	82.8	87.6	84.1	85.9	96.1
1946.....	83.6	85.4	86.7	88.1	82.2	82.9	90.3	85.9
1947.....	94.3	93.2	93.2	91.4	91.6	92.2	93.9	96.9
1948.....	97.1	100.5	97.3	96.5	96.9	94.5	97.1	102.1
1949.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1950.....	101.3	98.7	104.1	103.1	100.8	102.2	100.1	99.0
1951.....	106.6	101.6	110.7	108.4	109.5	107.7	102.7	101.4
1952.....	110.9	105.2	113.3	108.9	109.2	107.0	104.0	100.1
1953.....	113.8	110.9	119.6	109.4	111.4	111.1	104.1	102.2
1954.....	110.8	110.7	120.1	109.7	104.3	93.9	103.1	102.5

6.—Annual Average Index Numbers of Employment by Metropolitan Area 1945-54 and Monthly Indexes 1953 and 1954—concluded

Year and Month	Montreal	Quebec	Toronto	Ottawa-Hull	Hamilton	Windsor	Winnipeg	Vancouver
1953—								
Jan. 1.....	113.2	108.8	119.0	111.4	111.4	111.0	105.1	103.5
Feb. 1.....	112.1	106.4	117.1	107.8	111.1	109.0	102.5	99.6
Mar. 1.....	112.4	106.6	117.5	107.0	110.0	112.4	101.3	99.9
Apr. 1.....	113.3	108.6	118.3	108.0	111.7	114.8	101.8	100.1
May 1.....	113.8	109.5	118.5	108.2	111.5	115.3	102.6	100.0
June 1.....	113.9	110.5	118.7	109.0	111.7	114.3	103.2	101.3
July 1.....	114.2	112.0	119.8	109.9	111.7	116.2	105.0	102.4
Aug. 1.....	113.3	113.7	118.6	109.7	111.7	113.6	105.3	103.9
Sept. 1.....	114.8	114.4	120.2	110.4	111.4	108.5	106.1	104.6
Oct. 1.....	114.8	114.7	121.5	110.2	112.2	109.4	105.9	104.3
Nov. 1.....	115.0	113.9	122.8	110.1	111.3	104.4	104.8	103.5
Dec. 1.....	115.0	112.3	123.4	110.6	110.8	104.5	106.2	103.1
1954—								
Jan. 1.....	111.2	107.2	121.1	109.2	108.1	108.2	101.8	101.9
Feb. 1.....	109.7	104.6	119.0	105.2	106.1	106.8	100.1	98.0
Mar. 1.....	109.6	105.0	119.3	104.7	104.9	106.3	99.2	99.0
Apr. 1.....	109.4	106.5	119.1	105.3	103.6	104.2	100.2	100.7
May 1.....	110.9	109.7	119.4	106.5	103.7	101.4	100.8	100.7
June 1.....	110.8	111.5	120.1	110.1	104.3	96.9	101.8	101.9
July 1.....	111.5	113.8	120.9	112.1	104.2	97.1	104.6	103.2
Aug. 1.....	110.5	114.1	119.3	112.6	103.1	89.5	105.4	104.6
Sept. 1.....	111.4	115.0	120.4	113.2	102.7	80.9	105.9	105.7
Oct. 1.....	111.9	115.5	120.5	112.0	104.3	83.0	107.0	104.8
Nov. 1.....	110.7	114.0	120.7	112.8	103.8	74.6	106.1	105.0
Dec. 1.....	112.4	111.7	121.5	113.1	102.4	77.4	106.9	104.0
Percentage distribution ¹	15.0	1.6	15.3	1.8	3.1	1.6	3.4	3.9

¹ Proportion of employees reported in metropolitan areas to the total reported by all employers making returns in Canada (12 month average).

Earnings.—Payroll disbursements in the reporting establishments in 1954 were very slightly below the record figure achieved in 1953 but exceeded those in any earlier year. The decline in employment in the 12 month comparison was almost offset by continued increases in wage and salary rates.

Aggregate wages and salaries were lower in 1954 than in 1953 in those areas where the decline in the level of employment was most marked. Noteworthy losses occurred in construction (6.2 p.c.) and durable goods manufacturing (4.5 p.c.). The reduction in manufacturing as a whole was 1.6 p.c., the trend in establishments producing non-durable goods having been moderately upward. Payrolls were also higher in public utility operations, trade, finance, insurance and real estate and in the service group.

Most of the provinces recorded slight declines in earnings; the greatest were in Newfoundland and Prince Edward Island but Nova Scotia, New Brunswick, Ontario and British Columbia were also lower than in 1953. The most substantial increase was in Saskatchewan, with Alberta and Manitoba next in line.

The over-all average weekly wages and salaries in the establishments covered rose from \$57.30 in 1953 to \$58.88 in 1954, an alltime maximum. Higher per capita figures were recorded in all industrial divisions; the groups showing the largest increases were paper products, electrical apparatus and supplies, chemical products, public utility operations, and finance, insurance and real estate, in each of which average weekly earnings increased by more than \$2. Earnings per employee were higher in most provinces and in nearly all metropolitan areas for which data are segregated.

7.—Annual Index Numbers of Employment, Payrolls and Earnings together with Average Weekly Earnings by Industry, Province and Metropolitan Area 1953 and 1954

Industry, Province and Metropolitan Area	Index Numbers (1949=100)						Average Weekly Earnings Reported	
	Employment		Aggregate Weekly Payrolls		Average Weekly Earnings			
	1953	1954	1953	1954	1953	1954	1953	1954
Industry							\$	\$
Forestry (chiefly logging).....	100.0	95.1	146.0	142.4	143.1	147.4	58.11	59.86
Mining.....	111.7	109.8	149.5	150.7	133.4	136.9	68.70	70.48
Manufacturing.....	113.3	107.7	152.4	150.0	134.2	138.6	59.01	60.94
Durable goods ¹	123.7	115.0	167.6	160.0	135.0	138.6	63.64	65.34
Non-durable goods ¹	104.2	101.4	137.9	140.1	131.8	137.5	54.26	56.64
Construction.....	118.6	110.7	173.7	163.0	146.7	147.9	60.57	61.04
Transportation, storage and communication.....	111.3	109.0	141.5	142.2	126.2	129.4	61.09	62.62
Public utility operation.....	112.1	115.7	152.8	164.4	135.4	140.8	65.16	67.76
Trade.....	113.2	114.6	147.7	156.5	130.5	136.9	48.26	50.60
Finance, insurance and real estate.....	122.4	127.4	149.2	162.4	122.3	127.4	51.64	53.78
Service ²	108.7	111.4	138.4	148.9	131.4	138.2	36.87	38.77
Totals.....	113.4	109.9	151.5	151.3	133.4	137.1	57.30	58.88
Province								
Newfoundland.....	140.9	128.2	209.5	186.1	147.9	145.2	55.54	54.48
Prince Edward Island.....	116.4	110.1	153.6	144.9	132.7	132.2	44.53	44.37
Nova Scotia.....	101.2	97.7	131.5	129.3	128.7	131.7	48.45	49.57
New Brunswick.....	101.4	97.8	131.0	130.1	128.7	132.3	48.99	50.36
Quebec.....	112.8	109.2	149.9	149.9	132.4	136.9	54.55	56.40
Ontario.....	114.7	110.9	153.6	153.2	133.9	137.8	59.38	61.15
Manitoba.....	107.2	104.8	137.9	139.0	128.6	132.1	54.87	56.40
Saskatchewan.....	116.0	118.0	152.6	160.0	131.4	135.2	54.54	56.09
Alberta.....	128.5	127.6	169.3	172.8	132.5	135.3	58.81	60.08
British Columbia.....	108.4	106.2	150.2	149.8	138.8	141.0	63.34	64.34
Metropolitan Area								
St. John's.....	117.3	113.6	153.3	153.9	130.6	135.3	42.08	43.62
Sydney.....	101.7	93.5	130.0	118.9	127.9	127.3	59.98	59.73
Halifax.....	115.5	113.5	148.8	152.0	129.7	134.5	45.96	47.68
Saint John.....	102.7	100.3	128.5	131.5	125.6	131.2	45.01	47.07
Quebec.....	110.9	110.7	146.1	150.8	131.4	135.5	46.86	48.33
Sherbrooke.....	105.3	99.5	136.1	131.9	129.8	132.5	46.61	47.79
Three Rivers.....	101.5	102.6	131.4	138.7	127.8	135.1	53.30	55.50
Drummondville.....	85.0	69.6	112.8	93.3	132.7	136.7	51.55	52.04
Montreal.....	113.8	110.8	150.6	151.9	132.4	136.8	55.39	57.21
Ottawa-Hull.....	109.4	109.7	143.1	151.1	131.1	138.0	51.45	54.13
Peterborough.....	97.6	97.3	132.3	135.1	135.4	138.8	60.68	62.20
Oshawa.....	157.1	141.8	201.7	181.3	127.6	127.3	64.95	64.83
Niagara Falls.....	166.5	145.8	248.2	215.2	149.0	147.6	67.98	67.29
St. Catharines.....	122.1	110.9	162.9	152.0	133.3	136.9	65.84	67.37
Toronto.....	119.6	120.1	161.4	168.9	136.1	141.3	59.92	62.23
Hamilton.....	111.4	104.3	146.6	141.5	131.5	134.9	61.34	62.95
Brantford.....	88.5	82.1	114.3	109.8	129.5	134.1	56.58	58.58
Galt.....	108.6	98.6	148.1	135.8	136.4	137.7	53.60	54.13
Kitchener.....	107.8	103.4	146.9	143.2	135.2	138.6	54.94	56.31
Sudbury.....	134.5	134.6	180.4	182.6	134.1	135.7	71.76	72.62
London.....	113.8	110.9	153.3	153.6	134.0	137.8	54.63	56.17
Sarnia.....	122.7	117.9	178.4	177.5	145.7	152.2	70.83	73.17
Windsor.....	111.1	93.9	148.1	126.2	132.4	133.6	67.19	67.82
Sault Ste. Marie.....	137.9	104.3	180.4	137.4	131.0	131.8	66.80	67.16
Fort William-Port Arthur.....	120.1	107.8	159.5	145.1	131.9	133.1	59.93	60.47
Winnipeg.....	104.1	103.3	136.3	139.9	131.5	136.6	51.69	53.70
Regina.....	112.3	119.2	147.9	167.8	131.8	140.5	50.42	53.74
Saskatoon.....	117.4	120.6	156.9	169.9	133.2	140.5	49.86	52.58
Edmonton.....	145.9	144.4	206.8	203.4	142.2	141.1	57.71	57.28
Calgary.....	128.6	131.5	170.6	181.4	132.8	138.1	55.74	57.95
Vancouver.....	102.2	102.5	137.4	143.3	134.7	140.0	58.95	61.25
Victoria.....	110.2	110.5	149.8	153.8	136.0	138.5	56.86	57.90

¹ The durable goods group includes wood products, iron and steel products, transportation equipment, non-ferrous metal products, electrical apparatus and supplies, and non-metallic mineral products; the non-durable goods group includes all other manufacturing industries.

² Mainly hotels, restaurants, laundries, dry cleaning establishments and business and recreation service.

8.—Annual Average Weekly Earnings by Industrial Group 1945-54 and Monthly Averages 1953 and 1954

Year and Month	Forestry (chiefly logging)	Mining	Manu- factur- ing	Con- struc- tion	Trans- porta- tion, Storage and Com- muni- cation	Public Utility Opera- tion	Trade	Finance, Insur- ance, Real Estate	Serve- ice ¹	Indus- trial Com- posite
Averages—	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
1945.....	26.90	38.61	32.46	30.66	36.05	36.91	26.85	34.77	20.71	32.04
1946.....	29.03	39.21	32.27	31.62	37.53	38.17	28.45	36.11	21.90	32.48
1947.....	35.42	43.03	36.34	34.85	41.23	41.05	31.29	38.34	23.48	36.19
1948.....	39.11	48.77	40.67	37.99	45.51	45.16	34.38	40.08	25.87	40.06
1949.....	40.62	51.49	43.97	41.28	48.39	48.14	36.97	42.22	28.05	42.96
1950.....	42.01	53.95	46.21	43.27	49.15	51.14	38.81	43.90	29.50	44.84
1951.....	48.40	59.82	51.25	48.36	53.76	55.93	42.71	46.26	31.61	49.61
1952.....	55.31	65.35	56.11	55.37	56.48	61.66	45.89	49.13	34.05	54.13
1953.....	58.11	68.70	59.01	60.57	61.09	65.16	48.26	51.64	36.87	57.30
1954.....	59.86	70.48	60.94	61.04	62.62	67.76	50.60	53.78	38.87	58.88
1953—										
Jan. 1.....	57.59	65.46	54.92	51.51	59.58	63.45	46.29	50.06	34.83	53.81
Feb. 1.....	56.30	68.59	58.82	59.97	59.79	64.95	47.22	50.26	36.16	56.72
Mar. 1.....	61.12	67.70	59.25	61.50	60.77	65.31	47.81	50.32	36.55	57.40
Apr. 1.....	59.22	67.06	59.43	61.11	60.11	64.83	47.90	51.79	36.75	57.33
May 1.....	58.23	68.08	59.43	59.99	61.21	64.64	48.37	52.06	37.31	57.52
June 1.....	56.75	68.87	59.43	61.08	61.87	65.70	48.45	52.01	37.23	57.72
July 1.....	57.94	68.23	59.16	60.94	61.80	64.71	48.80	51.94	36.80	57.57
Aug. 1.....	59.21	68.54	58.93	61.34	61.35	65.01	49.05	52.07	36.76	57.52
Sept. 1.....	59.45	69.28	58.83	61.93	61.45	64.80	49.03	52.16	36.66	57.61
Oct. 1.....	55.08	70.23	59.69	63.32	61.93	65.98	49.03	52.09	37.38	58.11
Nov. 1.....	56.86	70.30	59.98	62.29	61.92	65.73	48.90	52.44	37.86	58.14
Dec. 1.....	59.58	72.01	60.29	61.81	61.31	66.76	48.27	52.50	38.11	58.13
1954—										
Jan. 1.....	59.38	68.04	58.24	55.34	61.40	66.97	49.24	52.69	37.83	56.56
Feb. 1.....	56.15	70.91	60.60	61.48	61.86	68.61	50.06	52.75	38.27	58.47
Mar. 1.....	60.52	70.71	61.13	63.81	62.51	69.24	50.51	53.20	38.80	59.22
Apr. 1.....	62.39	69.43	61.19	62.85	61.91	67.99	50.68	53.53	38.65	59.06
May 1.....	62.23	70.00	61.30	61.33	62.70	68.06	50.70	54.11	39.04	59.15
June 1.....	59.68	70.38	60.54	59.13	62.02	67.22	50.68	54.27	38.62	58.42
July 1.....	59.30	70.03	60.99	61.41	62.59	67.35	51.00	54.35	38.50	58.98
Aug. 1.....	60.69	70.03	61.07	61.81	62.75	67.00	51.38	54.20	38.49	59.17
Sept. 1.....	60.95	69.65	60.87	60.99	62.83	66.85	51.09	53.92	38.17	58.93
Oct. 1.....	58.60	71.26	61.39	61.34	63.31	67.28	50.85	53.91	39.04	59.25
Nov. 1.....	60.58	72.56	61.89	61.61	64.09	68.44	50.93	54.17	39.73	59.78
Dec. 1.....	60.49	72.73	62.07	61.35	63.46	68.09	50.11	54.29	40.09	59.59

¹ Mainly hotels, restaurants, laundries, dry cleaning establishments and business and recreation service.

Man-Hours and Hourly Earnings.—A monthly series of statistics of man-hours, hourly earnings and weekly wages* has been computed since 1944 for those establishments covered by the survey which keep a record of hours worked by their wage earners. Because salaried employees are purposely excluded from the series and also because some establishments do not keep the necessary records, the coverage is lower than in the employment and payrolls inquiry. Monthly data are obtained for over 80 p.c. of the total production workers reporting to the annual Census of Industry and Merchandising which surveys practically all establishments, irrespective of size.

Average hours worked per week by factory wage earners have fallen steadily since the end of the War and showed a further slight decrease in 1954. In some factories the lower figure may be related to a decline in industrial activity resulting in less overtime work and some short time. However average hours were also lower in groups, such as paper products and chemical products, where activity increased during the year, largely because of a reduction in standard hours per week. The only significant advances from 1953 in average hours worked per week were recorded in coal mining and printing, publishing and allied industries.

* DBS Bulletin *Man-Hours and Hourly Earnings with Average Weekly Wages*.

The average hourly earnings of wage earners reported in manufacturing rose from \$1.36 in 1953 to \$1.41 in 1954, the largest increases being in paper products, printing, non-ferrous metal, chemical and petroleum and coal products. The trend in the non-manufacturing divisions for which data are available was also upward; the only group showing a decrease was coal mining which dropped from \$1.50 in 1953 to \$1.48 in 1954 as a result of the employment of relatively more miners in 1954 in areas where average earnings were below the industry average for Canada.

9.—Average Hours and Earnings in Specified Industries and Areas 1953 and 1954

Industry, Province and Metropolitan Area	Average Hours Worked		Average Hourly Earnings		Average Weekly Wages	
	1953	1954	1953	1954	1953	1954
	No.	No.	cts.	cts.	\$	\$
Industry						
Mining	42.7	42.6	153.8	157.3	65.67	67.01
Metal mining.....	44.4	44.1	156.5	161.4	69.49	71.18
Coal mining.....	37.9	38.3	150.4	148.4	57.00	56.84
Manufacturing	41.3	40.6	135.8	140.8	56.09	57.16
Durable goods ¹	41.6	40.9	147.1	151.6	61.19	62.00
Non-durable goods ¹	40.9	40.3	122.9	129.4	50.27	52.15
Construction	41.6	40.3	143.7	148.3	59.78	59.76
Buildings and structures.....	40.7	39.8	156.8	160.6	63.82	63.92
Highways, bridges and streets.....	41.4	41.1	112.8	120.5	46.70	49.53
Service	42.0	40.9	78.2	83.0	32.84	33.95
Hotels and restaurants.....	42.7	41.5	77.8	82.7	33.22	34.32
Laundries and dry cleaning plants.....	41.3	40.7	75.1	79.3	31.02	32.28
Province						
Newfoundland.....	41.6	42.3	132.8	137.4	55.24	58.12
Nova Scotia.....	41.2	40.8	120.5	123.2	49.65	50.27
New Brunswick.....	42.1	41.6	119.0	124.7	50.10	51.88
Quebec.....	42.7	41.7	121.9	127.4	52.05	53.13
Ontario.....	40.9	40.3	143.4	148.0	58.65	59.64
Manitoba.....	40.3	40.2	131.4	135.1	52.95	54.31
Saskatchewan.....	40.7	40.4	136.5	144.7	55.56	58.46
Alberta.....	40.2	40.0	139.7	146.0	56.16	58.40
British Columbia.....	38.0	38.0	164.0	169.0	62.32	64.22
Metropolitan Area						
Montreal.....	41.7	40.6	128.3	133.2	53.50	54.08
Toronto.....	40.7	40.2	143.4	149.2	58.36	59.98
Hamilton.....	39.7	39.4	155.9	159.3	61.89	62.76
Windsor.....	40.5	39.5	165.2	168.2	66.91	66.44
Winnipeg.....	40.1	39.9	130.1	133.5	52.17	53.27
Vancouver.....	37.7	37.7	161.6	166.6	60.92	62.81

¹ The durable goods group includes wood products, iron and steel products, transportation equipment, non-ferrous metal products, electrical apparatus and supplies, and non-metallic mineral products; the non-durable goods group includes all other manufacturing industries.

Subsection 2.—Earnings and Hours of Work of Male and Female Employees in Manufacturing Establishments*

A survey of earnings and hours of men and women wage earners and salaried employees in manufacturing establishments usually employing 15 or more persons is made for the last week of October each year. In addition to the general figures of earnings and hours, more detailed data are obtained in a three year cycle. In 1954 information for office, clerical and related employees was segregated from that for managerial, professional and other salaried employees; in 1953 a distribution of wage earners and salaried employees by amounts

* More detailed information is given in DBS Annual Bulletin *Earnings and Hours in Manufacturing*.

earned in the week surveyed was obtained; and in 1952 wage earners were reported in a given range of hours per week. The annual survey supplements the data obtained in the monthly series on employment, payrolls and man-hours in the same manufacturing establishments and covers almost 90 p.c. of all employees in the industry as reported in the annual Census of Industry and Merchandising.

The co-operating establishments are asked to report for all full time, casual and part time employees paid for the week ending Oct. 31, except homeworkers and persons absent without pay throughout the week. Proprietors, firm members, pensioners and staffs in separately organized sales offices are excluded. The gross earnings, including regularly paid bonuses, overtime and vacation pay for the week, are reported before deduction for taxes, unemployment insurance, pension contributions, etc. The hours include part time, full time and overtime hours worked and hours of paid absence in the reported week.

The upward movement in average earnings, typical of the postwar period, continued in 1954 although the increases were below the average of recently preceding years. In the five years 1950 to 1954 the averages of weekly wages and salaries rose by 26.2 p.c. and 32.5 p.c., respectively. Continuing small declines in the hours of the wage earners resulted in greater proportional increases in their hourly than in their weekly earnings. Table 10 gives the amounts and proportions of the changes in the general figures in the five years.

10.—Average Earnings, and Increases over the Preceding Year, Weeks Ended Oct. 31, 1950-54

(As reported by manufacturers usually employing 15 or more persons.)

Year	Men			Women			Both Sexes		
	Average Earnings	Increase over Preceding Year		Average Earnings	Increase over Preceding Year		Average Earnings	Increase over Preceding Year	
AVERAGE HOURLY EARNINGS OF WAGE EARNERS									
	\$	\$	p.c.	\$	\$	p.c.	\$	\$	p.c.
1950.....	1.142	0.076	7.1	0.725	0.042	6.1	1.056	0.072	7.3
1951.....	1.313	0.171	15.0	0.825	0.100	13.8	1.222	0.166	15.7
1952.....	1.402	0.089	6.8	0.863	0.038	4.6	1.295	0.073	6.0
1953.....	1.471	0.069	4.9	0.910	0.047	5.4	1.359	0.064	4.9
1954.....	1.513	0.042	2.9	0.933	0.023	2.5	1.398	0.039	2.9
AVERAGE WEEKLY WAGES									
	\$	\$	p.c.	\$	\$	p.c.	\$	\$	p.c.
1950.....	50.93	3.60	7.6	29.00	1.82	6.7	45.94	3.33	7.8
1951.....	56.46	5.53	10.9	31.27	2.27	7.8	51.32	5.38	11.7
1952.....	60.85	4.39	7.8	34.17	2.90	9.3	55.17	3.85	7.5
1953.....	62.71	1.86	3.1	35.07	0.90	2.6	56.75	1.58	2.9
1954.....	63.98	1.27	2.0	35.90	0.83	2.4	57.99	1.24	2.2
AVERAGE WEEKLY SALARIES									
	\$	\$	p.c.	\$	\$	p.c.	\$	\$	p.c.
1950.....	69.35	3.98	6.1	34.38	1.76	5.4	58.74	3.89	7.1
1951.....	77.55	8.20	11.8	38.42	4.04	11.8	65.98	7.24	12.3
1952.....	82.60	5.05	6.5	41.26	2.84	7.4	70.75	4.77	7.2
1953.....	86.43	3.83	4.6	43.13	1.87	4.5	73.87	3.12	4.4
1954.....	90.99	4.56	5.3	45.00	1.87	4.3	77.81	3.94	5.3

Table 11 shows the geographical and industrial averages for male and female wage earners and salaried employees for the week ended Oct. 31, 1954 and Table 12 the averages of weekly earnings of general office and clerical employees for the same week.

Industrial and geographical variations in working time as well as year to year changes, as shown in these tables, result from a variety of causes—variation in the length of the standard work week; the numbers of casual and part time workers employed and their hours in the reported week; amounts of overtime worked, and of time lost through absenteeism, labour turnover, industrial disputes, layoffs, etc.; differing occupational requirements and varying proportions of men and women. Women generally average substantially shorter time than men. Their standard work week tends to be lower, as relatively small proportions of women are employed in industries where the work week is above average, and they show a higher frequency of part time work and of absenteeism.

Levels of average earnings are related to the distributions of employees in industries or areas where pay rates are above or below average. They also reflect differences in basic pay rates, in occupational skills, in amounts of bonus, commission and overtime payments, variations in levels of activity in component groups and in particular establishments, and other factors. The averages of salaried personnel are further affected by the incidence of head offices, the type and size of establishments, and varying requirements for highly paid professional and executive personnel, most of whom are men. Women's earnings generally average well below those of men in the same industries, chiefly as a result of pay differentials, occupational variations, a greater incidence of part time work and absenteeism among women, and their higher proportions of younger and less experienced workers. The proportions of women reported in the 1953 and 1954 surveys and the relationship of their earnings to men's earnings are given in Table 13, p. 750.

11.—Average Hours and Earnings of Male and Female Wage Earners for the Last Week of October 1954

(As reported by manufacturers usually employing 15 or more persons.)

Province, City and Industry	Average Hours Worked			Average Hourly Earnings			Average Weekly Earnings		
	Men	Women	Both Sexes	Men	Women	Both Sexes	Men	Women	Both Sexes
	No.	No.	No.	cts.	cts.	cts.	\$	\$	\$
Province									
Newfoundland.....	43.3	38.3	42.8	142.5	54.8	134.5	61.67	21.01	57.57
Nova Scotia.....	41.4	39.3	41.1	126.5	58.5	117.6	52.41	23.01	48.37
New Brunswick.....	43.3	37.6	42.6	127.4	68.4	120.5	55.16	25.70	51.28
Quebec.....	43.7	38.7	42.3	137.9	87.2	125.3	60.28	33.80	53.04
Ontario.....	41.8	38.6	41.2	159.0	100.0	147.7	66.54	38.66	60.83
Manitoba.....	41.9	38.7	41.2	144.9	87.1	133.1	60.70	33.67	54.85
Saskatchewan.....	42.3	35.8	41.5	146.4	98.8	141.4	61.86	35.41	58.67
Alberta.....	42.1	36.6	41.4	152.1	103.2	146.9	64.00	37.81	60.82
British Columbia.....	40.0	35.6	39.6	175.2	110.3	169.2	70.07	39.31	66.95
Totals.....	42.3	38.5	41.5	151.3	93.3	139.8	63.98	35.90	57.99
City									
Montreal.....	42.7	37.9	41.2	145.1	93.4	130.2	61.97	35.37	53.65
Toronto.....	41.7	38.6	40.9	163.9	102.9	148.9	68.35	39.66	60.88
Hamilton.....	41.0	38.2	40.4	170.0	106.9	157.9	69.69	40.80	63.80
Windsor.....	40.5	39.3	40.4	176.5	125.1	172.1	71.54	39.41	69.59
Winnipeg.....	41.6	38.6	40.9	144.1	87.3	131.7	60.00	33.72	53.89
Vancouver.....	39.3	36.9	38.9	176.1	111.1	167.0	69.16	40.97	65.00
Industry									
Food and beverages.....	43.3	37.9	41.8	132.1	85.5	120.1	57.20	32.40	50.17
Meat products.....	41.7	38.2	41.0	155.3	115.9	148.2	64.72	44.21	60.75
Canned and preserved fruits and vegetables.....	43.6	35.7	39.4	107.4	74.2	91.7	46.85	26.49	36.16
Bread and other bakery products.....	45.2	41.2	44.5	126.6	76.2	118.0	57.29	31.38	52.50
Tobacco and tobacco products.....	42.1	39.5	40.5	154.0	128.7	138.9	64.82	50.85	56.28
Rubber products.....	42.0	40.0	41.6	154.2	106.7	144.1	64.82	42.69	59.91
Leather products.....	38.7	36.5	37.8	114.8	78.9	100.2	44.48	28.78	37.87

11.—Average Hours and Earnings of Male and Female Wage Earners for the Last Week of October 1954—concluded

Industry	Average Hours Worked			Average Hourly Earnings			Average Weekly Earnings		
	Men	Women	Both Sexes	Men	Women	Both Sexes	Men	Women	Both Sexes
	No.	No.	No.	cts.	cts.	cts.	\$	\$	\$
Industry—concluded									
Textile products (except clothing).....	44.3	40.6	43.0	119.5	92.3	110.4	52.93	37.46	47.43
Cotton yarn and broad woven goods.....	41.6	40.1	41.1	119.3	98.4	112.0	49.62	39.48	46.02
Clothing (textile and fur).....	40.5	37.5	38.4	132.8	84.7	99.3	53.79	31.74	38.08
Men's clothing.....	38.7	37.0	37.5	131.8	84.7	99.0	50.99	31.30	37.10
Women's clothing.....	37.2	35.7	36.0	154.4	90.0	103.1	57.35	32.12	37.09
Knit goods.....	44.0	40.1	41.5	125.2	82.2	98.2	55.11	32.94	40.71
Wood products.....	43.4	40.2	43.2	127.7	97.7	126.2	55.41	39.29	54.52
Saw and planing mills.....	42.8	40.6	42.7	134.5	116.7	133.9	57.54	47.41	57.22
Furniture.....	44.5	39.7	44.1	117.0	94.7	115.4	52.08	37.59	50.96
Paper products.....	43.1	39.2	42.7	168.9	93.6	161.9	72.80	36.65	69.15
Pulp and paper mills.....	43.0	38.3	42.9	174.6	103.7	173.4	75.11	39.68	74.40
Other paper products.....	43.6	39.3	42.1	144.0	91.9	127.5	62.78	36.12	53.74
Printing, publishing and allied industries.....	40.7	38.4	40.2	183.7	92.1	164.6	74.85	35.35	66.24
Iron and steel products.....	41.7	38.9	41.6	160.2	116.5	158.2	66.82	45.33	65.75
Iron castings.....	42.6	37.2	42.5	156.1	119.3	155.6	66.49	44.38	66.14
Machinery manufacturing.....	42.3	39.2	42.1	155.3	119.3	153.4	65.67	46.79	64.63
Primary iron and steel.....	40.4	33.3	40.4	173.8	138.5	173.5	70.30	46.14	70.07
Transportation equipment.....	41.4	38.4	41.3	165.2	131.5	164.1	68.37	50.46	67.74
Aircraft and parts.....	41.3	39.1	41.2	172.3	147.2	171.3	71.23	57.63	70.65
Motor vehicles.....	41.6	40.9	41.6	176.7	131.0	176.0	73.57	53.56	73.26
Motor vehicle parts and accessories.....	41.5	37.1	40.9	170.7	132.2	166.4	70.76	49.08	68.10
Railroad and rolling stock equipment.....	39.7	33.4	39.7	158.6	123.1	158.6	62.97	41.08	62.93
Shipbuilding and repairing.....	42.8	39.4	42.8	152.2	86.7	151.3	65.18	34.20	64.72
Non-ferrous metal products.....	41.9	40.0	41.7	164.3	93.5	159.6	68.75	37.43	66.61
Smelting and refining.....	41.6	36.6	41.5	173.7	112.2	173.4	72.18	41.10	72.04
Electrical apparatus and supplies.....	41.5	39.5	40.9	161.1	118.4	148.3	66.81	46.75	60.62
Non-metallic mineral products.....	45.0	40.5	44.7	145.9	103.3	143.4	65.57	41.84	64.03
Products of petroleum and coal.....	41.7	28.4	41.6	188.9	125.1	188.7	78.78	35.54	78.58
Chemical products.....	42.1	39.0	41.6	155.5	96.3	145.5	65.46	37.56	60.44
Miscellaneous manufacturing industries.....	43.1	40.3	42.1	132.9	86.0	115.9	57.31	34.64	48.74
Averages, Durable Goods.....	42.1	39.4	41.9	154.8	114.0	151.7	65.22	44.95	63.58
Averages, Non-durable Goods.....	42.5	38.3	41.1	146.7	88.5	128.5	62.39	33.90	52.51
Averages, Manufacturing Industries.....	42.3	38.5	41.5	151.3	93.3	139.8	63.98	35.90	57.99

12.—Average Hours and Earnings of Male and Female Salaried Employees for the Last Week of October 1954

(As reported by manufacturers usually employing 15 or more persons.)

Province	Salaried Employees						Office Workers		
	Average Hours Worked			Average Weekly Earnings			Average Weekly Earnings		
	Men	Women	Both Sexes	Men	Women	Both Sexes	Men	Women	Both Sexes
	No.	No.	No.	\$	\$	\$	\$	\$	\$
Province									
Newfoundland.....	40.9	39.9	40.7	80.34	37.55	71.39	60.20	37.01	53.32
Nova Scotia.....	41.6	38.6	40.8	76.73	35.64	65.91	61.35	35.17	50.52
New Brunswick.....	40.9	38.9	40.3	77.96	35.98	66.18	62.69	35.61	51.71
Quebec.....	39.4	37.8	39.0	88.64	44.83	76.32	68.80	43.77	58.24
Ontario.....	39.2	37.7	38.8	93.91	45.88	79.67	73.22	45.09	60.58
Manitoba.....	39.7	38.0	39.3	79.10	39.67	68.30	63.35	39.00	53.52
Saskatchewan.....	40.6	40.1	40.5	74.68	41.65	63.96	60.27	41.30	50.57
Alberta.....	40.5	39.2	40.2	85.34	43.04	74.38	66.81	42.82	57.01
British Columbia.....	39.7	38.2	39.3	93.83	45.22	81.81	74.58	44.51	62.40
Totals.....	39.4	37.9	39.0	90.99	45.00	77.81	70.94	44.16	59.29

12.—Average Hours and Earnings of Male and Female Salaried Employees for the Last Week of October 1954—concluded

City and Industry	Salaried Employees						Office Workers		
	Average Hours Worked			Average Weekly Earnings			Average Weekly Earnings		
	Men	Women	Both Sexes	Men	Women	Both Sexes	Men	Women	Both Sexes
	No.	No.	No.	\$	\$	\$	\$	\$	\$
City									
Montreal.....	39.0	37.5	38.6	90.63	46.97	77.81	70.53	45.75	59.80
Toronto.....	38.7	37.4	38.3	93.96	47.46	79.23	73.76	46.45	61.36
Hamilton.....	39.2	38.1	38.9	95.28	45.16	80.21	75.68	44.78	62.09
Windsor.....	40.6	38.9	40.2	108.30	51.73	93.57	88.43	51.21	73.43
Winnipeg.....	39.7	38.0	39.2	79.53	39.44	68.21	63.85	38.79	53.54
Vancouver.....	39.2	37.9	38.8	90.85	44.88	77.25	71.98	44.06	59.63
Industry									
Food and beverages.....	40.2	38.4	39.7	81.40	42.87	70.78	65.06	42.33	54.81
Meat products.....	40.6	39.1	40.3	82.86	46.99	75.66	69.87	46.60	62.42
Canned and preserved fruits and vegetables.....	40.5	38.5	39.8	78.94	41.51	66.80	60.56	41.25	49.17
Bread and other bakery products.....	43.9	38.4	42.0	70.15	40.43	60.08	56.11	39.77	47.20
Tobacco and tobacco products.....	37.8	37.2	37.6	93.84	53.44	79.50	68.31	51.06	57.85
Rubber products.....	39.4	38.2	39.1	85.57	43.80	74.07	64.87	43.24	55.75
Leather products.....	40.5	37.9	39.6	77.23	38.06	64.44	59.70	37.94	49.26
Textile products (except clothing).....	40.0	38.0	39.3	88.28	41.80	72.94	62.10	40.99	51.19
Cotton yarn and broad woven goods.....	39.1	37.5	38.6	86.63	40.60	70.63	61.90	40.35	51.49
Clothing (textile and fur).....	40.4	38.0	39.4	84.43	41.82	66.24	60.88	40.07	48.30
Men's clothing.....	39.9	37.9	39.1	82.42	39.82	66.28	60.41	38.79	49.04
Women's clothing.....	40.4	37.9	39.2	83.36	46.18	65.77	60.91	43.87	50.13
Knit goods.....	40.7	38.3	39.7	87.54	39.24	66.12	62.23	37.66	45.54
Wood products.....	41.8	38.2	40.9	84.81	41.79	74.01	66.58	41.36	56.42
Saw and planing mills.....	42.6	39.0	41.8	85.80	42.35	76.61	68.22	42.04	59.21
Furniture.....	40.5	37.4	39.6	84.25	41.13	70.67	64.96	40.45	53.21
Paper products.....	37.9	37.0	37.7	109.16	48.45	93.19	78.28	47.70	65.42
Pulp and paper mills.....	38.2	37.2	38.0	117.58	51.21	102.68	83.06	50.43	71.41
Other paper products.....	37.4	36.8	37.2	91.55	45.10	76.11	66.20	44.38	54.50
Printing, publishing and allied industries.....	37.9	37.3	37.7	83.19	42.14	67.30	63.28	40.92	51.68
Iron and steel products.....	39.2	37.8	38.9	89.57	44.88	78.30	70.42	44.43	60.52
Iron castings.....	40.0	37.1	39.3	89.15	43.58	77.85	68.24	43.20	58.92
Machinery manufacturing.....	38.8	37.8	38.5	86.32	44.02	74.60	69.28	43.56	58.97
Primary iron and steel.....	39.8	38.2	39.5	99.43	47.15	88.45	71.48	46.61	61.15
Transportation equipment.....	40.7	38.8	40.3	95.28	48.22	84.40	80.01	47.90	69.64
Aircraft and parts.....	40.4	38.6	39.9	93.32	47.94	81.98	81.77	47.69	71.39
Motor vehicles.....	41.6	39.5	41.1	106.71	52.71	94.38	86.66	52.56	74.71
Motor vehicle parts and accessories.....	40.7	39.0	40.2	97.71	48.25	85.25	76.51	47.45	65.00
Railroad and rolling stock equipment.....	40.4	38.4	40.1	88.85	46.89	83.31	73.71	46.66	67.15
Shipbuilding and repairing.....	39.5	38.0	39.2	81.74	39.25	72.81	69.11	38.85	60.63
Non-ferrous metal products.....	39.2	37.5	38.8	97.90	46.53	85.75	77.08	45.96	64.44
Smelting and refining.....	39.8	39.0	39.7	99.89	49.42	94.03	78.94	49.30	70.99
Electrical apparatus and supplies.....	39.1	38.1	38.8	90.46	46.73	78.36	74.58	46.13	63.44
Non-metallic mineral products.....	39.6	37.2	39.0	89.31	45.01	77.54	68.21	44.14	58.33
Products of petroleum and coal.....	37.0	36.1	36.8	116.07	54.20	101.28	89.59	51.13	61.61
Chemical products.....	38.2	37.6	38.0	94.51	47.16	79.70	68.97	45.62	56.30
Miscellaneous manufacturing industries.....	39.6	37.5	38.8	89.72	44.42	73.34	66.95	43.57	54.06
Averages, Durable Goods.....	39.8	38.1	39.4	91.60	45.97	80.14	74.23	45.50	63.51
Averages, Non-durable Goods.....	39.1	37.7	38.6	90.35	44.27	75.57	66.63	43.11	54.88
Averages, Manufacturing Industries.....	39.4	37.9	39.0	90.99	45.00	77.81	70.94	44.16	59.29

13.—Proportions of Women Employees and Proportions of their Average Earnings to Men's Earnings for the Last Week of October 1953 and 1954

(As reported by manufacturers usually employing 15 or more persons.)

Province and Group	Wage Earners				Salaried Employees			
	Proportion of Women		Proportion of Women's Wages to Men's		Proportion of Women		Proportion of Women's Salaries to Men's	
	1953	1954	1953	1954	1953	1954	1953	1954
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Newfoundland.....	8.4	10.1	33.3	34.1	21.8	20.9	44.1	46.7
Nova Scotia.....	13.1	13.7	44.1	43.9	25.2	26.3	49.3	46.4
New Brunswick.....	16.3	13.2	48.7	46.6	27.5	28.0	48.0	46.2
Quebec.....	26.8	27.3	54.7	56.1	28.5	28.1	50.3	50.6
Ontario.....	20.8	20.4	58.1	58.0	30.2	29.7	49.5	48.9
Manitoba.....	21.0	21.6	54.0	55.5	26.3	27.4	49.7	50.2
Saskatchewan.....	11.4	12.1	64.1	57.2	32.9	32.4	56.0	55.8
Alberta.....	13.9	12.2	62.4	59.1	25.8	25.9	52.8	50.4
British Columbia.....	11.2	10.1	56.2	56.1	24.6	24.7	48.9	48.2
Canada¹.....	21.6	21.3	55.9	56.1	29.0	28.7	49.9	49.5
Durable goods manufacturing.....	8.2	8.1	68.2	68.9	26.0	25.1	50.2	50.2
Non-durable goods manufacturing.....	35.0	33.6	54.4	54.3	31.8	32.1	49.8	49.0

¹ Includes Prince Edward Island and the Territories.

Data required for the tabulation of the provincial distribution of male and female wage earners and salary earners, classified by earnings group, are secured every third year. The latest figures available (1953 as compared with 1950) are given in the 1955 Year Book at pp. 790-791.

Section 4.—Wage Rates, Hours of Labour and Other Working Conditions

Statistics on occupational wage rates and standard hours of labour are compiled by the Federal Department of Labour and published in the *Labour Gazette* (official monthly journal of the Department) and in the annual report *Wage Rates and Hours of Labour in Canada*.

The wage data shown in this Section are different in a number of ways from that contained in previous editions of the Year Book. The number of industries for which indexes are given has been increased and the classification of industries has been brought into closer conformity with the Standard Industrial Classification used by most Government Departments. The base year of the wage rate index has been changed from 1939 to 1949.

The statistics on wage rates apply to the last normal pay period preceding Oct. 1, 1954 and cover some 15,000 establishments. The term "wage rate" is defined as the weighted average of rates paid to either time or incentive workers or both in a given occupation. The averages refer to straight-time earnings only, overtime earnings being excluded. The industry index numbers measure changes in wage rates for non-office employees below the first level of supervision. However they do not provide a basis for comparing the level of wages in one industry with those in another. More detailed information on concepts and methods is given in Department of Labour Annual Report No. 36, *Wage Rates and Hours of Labour in Canada*.

14.—Index Numbers of Average Wage Rates for Certain Main Industrial Groups 1945-54

(1949=100)

NOTE.—Indexes for the years prior to 1949 are conversions of the previous series on the 1939 base. Indexes back to 1901 may be obtained from the Department of Labour publication *Wage Rates and Hours of Labour in Canada, 1955*.

Year	Logging	Coal Mining	Metal Mining	Manufacturing			Construction	Steam Railways	Telephones	Personal Service	General Average
				Durable Goods	Non-durable Goods	All Manufacturing					
1945.....	70.9	74.6	70.9	68.2	66.5	67.2	71.2	73.7	82.9	69.4	69.3
1946.....	77.4	74.8	75.1	74.5	73.8	74.1	78.1	82.0	82.6	75.6	75.9
1947.....	90.2	85.0	87.2	84.9	83.5	84.1	84.1	83.6	87.3	87.4	84.9
1948.....	101.2	98.4	95.7	94.7	94.4	94.5	95.7	100.0	92.7	93.8	95.7
1949.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1950.....	97.0	102.8	106.8	106.6	105.6	106.1	104.8	105.1	104.8	102.9	105.5
1951.....	109.6	111.1	121.6	121.7	118.8	120.3	118.6	121.9	115.7	110.6	119.1
1952.....	133.3	124.0	130.1	130.2	126.5	128.4	128.6	136.8	128.4	117.6	127.7
1953.....	135.5	124.0	132.3	136.3	132.8	134.6	136.2	137.2	136.6	123.3	133.6
1954.....	138.0	123.5	136.7	140.0	136.9	138.5	140.0	137.8	147.6	128.6	137.9

15.—Index Numbers of Average Wage Rates by Industry 1951-54

(1949=100)

Industry	1951	1952	1953	1954
Logging.....	109.6	133.3	135.5	138.0
Eastern Canada.....	105.3	133.5	135.2	137.8
British Columbia, coastal.....	127.8	132.7	136.9	138.9
Mining.....	118.3	128.2	129.7	132.6
Metal mining.....	121.6	130.1	132.3	136.7
Gold mining.....	116.8	120.4	120.7	125.4
Other metal mining.....	124.5	136.1	139.4	143.7
Coal mining.....	111.1	124.0	124.0	123.5
Manufacturing.....	120.3	128.4	134.6	138.5
Food and beverages.....	117.5	125.1	131.2	135.5
Slaughtering and meat packing.....	125.4	139.6	136.3	138.5
Dairy products.....	115.8	122.1	127.9	132.6
Canned and cured fish.....	112.1	120.6	118.3	124.5
Canned and preserved fruits and vegetables.....	113.6	118.5	121.4	121.2
Flour mills.....	123.3	132.3	143.4	150.0
Biscuits and crackers.....	120.4	128.9	135.9	146.3
Bread and other bakery products.....	115.5	125.2	130.6	134.6
Malt liquors.....	117.7	131.9	148.1	152.9
Confectionery.....	117.4	126.3	137.2	141.2
Tobacco and tobacco products.....	135.1	141.0	152.0	155.0
Rubber products.....	124.3	127.4	134.9	138.1
Leather products.....	115.3	123.2	129.9	133.1
Boots and shoes, except rubber footwear.....	114.9	123.7	129.9	133.2
Leather tanneries.....	116.9	121.3	129.9	132.6
Textile products (except clothing).....	177.6	125.0	128.1	129.5
Cotton yarn and broad woven goods.....	117.1	127.5	128.7	129.5
Woolen and worsted woven goods and yarn.....	120.8	126.2	131.6	134.6
Rayon, nylon, and silk textiles.....	115.7	120.1	124.3	125.4
Clothing (textile and fur).....	112.8	119.6	124.9	126.8
Men's clothing.....	117.6	124.7	130.3	132.3
Men's and boys' suits and overcoats.....	116.9	124.9	130.0	130.8
Shirts.....	118.6	121.4	133.0	136.2
Work clothing.....	118.7	126.8	129.0	132.8
Women's clothing.....	103.2	112.0	113.4	113.7
Women's and misses' coats and suits.....	101.0	110.8	110.9	119.5
Women's and misses' dresses.....	104.5	112.7	115.0	110.2
Hosiery and knit goods.....	118.9	124.0	132.6	137.0
Fur goods.....	107.4	111.4	118.1	118.2

15.—Index Numbers of Average Wage Rates by Industry 1951-54—concluded

Industry	1951	1952	1953	1954
Manufacturing—concluded				
Wood products.....	120.5	128.4	131.4	132.6
Sash and door, and planing mills.....	119.8	127.0	131.7	135.2
Sawmills.....	123.4	132.3	133.4	134.3
Wooden furniture.....	113.7	119.7	126.0	126.8
Paper products.....	126.3	129.9	138.4	145.5
Paper boxes and containers.....	116.6	126.2	131.0	138.2
Pulp and paper.....	128.1	130.6	130.8	146.9
Pulp.....	126.8	129.2	138.9	144.2
Newsprint.....	126.5	128.8	138.5	144.4
Paper other than newsprint.....	127.6	127.6	136.2	147.4
Printing, publishing, and allied industries.....	117.2	130.0	137.3	142.8
Job printing.....	116.1	128.4	134.3	139.0
Daily newspapers.....	119.2	132.7	142.4	149.4
Iron and steel products.....	124.8	133.7	139.9	143.3
Agricultural implements.....	133.9	137.3	138.9	142.5
Heating and cooking apparatus.....	122.3	132.0	139.4	145.2
Household, office, store, and industrial machinery.....	122.6	130.1	137.3	143.5
Iron castings.....	120.2	133.0	139.2	140.6
Primary iron and steel.....	123.7	131.6	137.3	140.1
Sheet metal products.....	131.0	142.2	147.5	150.8
Transportation equipment.....	118.6	128.3	134.5	140.0
Aircraft and parts.....	119.1	133.9	141.8	154.2
Auto repair and garages.....	118.4	130.8	137.4	145.1
Motor vehicles.....	116.0	125.7	129.8	130.0
Motor vehicle parts and accessories.....	127.8	136.1	140.5	144.5
Railroad and rolling stock equipment.....	116.2	120.5	128.4	134.1
Shipbuilding and repairing.....	122.1	130.7	136.2	140.1
Brass and copper products.....	123.6	132.2	142.9	145.4
Electrical apparatus and supplies.....	122.1	130.1	134.6	139.5
Heavy electrical machinery and equipment.....	122.9	132.6	135.6	142.4
Radios and radio parts.....	119.2	123.5	134.1	133.0
Refrigerators, vacuum cleaners, and miscellaneous electrical products.....	122.6	131.0	134.5	140.4
Clay products.....	121.4	126.1	138.6	144.7
Petroleum refining and products.....	124.9	137.6	143.4	147.5
Chemical products.....	121.5	133.1	139.6	146.2
Acids, alkalis and salts.....	123.8	136.1	142.8	147.9
Medicinal and pharmaceutical preparations.....	119.0	127.7	135.5	141.4
Paints and varnishes.....	122.7	137.1	141.9	150.9
Durable goods ¹	121.7	130.2	136.3	140.0
Non-durable goods ¹	188.8	126.5	132.8	136.9
Construction (buildings and structures only).....	118.6	128.6	136.2	140.0
Transportation, Storage and Communication.....	119.8	133.2	136.9	140.6
Transportation.....	120.6	134.0	136.9	139.5
Railways.....	121.9	136.8	137.2	137.8
Urban and suburban transportation systems.....	119.2	129.9	135.0	140.2
Truck transportation.....	117.3	128.7	136.7	144.1
Water transportation.....	120.4	130.8	136.4	139.9
Storage (terminal grain elevators only).....	116.9	131.6	137.0	140.2
Communication (telephone only).....	115.7	128.4	136.6	147.6
Electric Light and Power.....	119.4	132.8	145.5	149.7
Trade.....	121.5	125.6	132.2	137.8
Wholesale.....	121.6	128.2	135.8	142.8
Retail.....	121.4	124.6	130.8	135.8
Personal Service.....	110.6	117.6	123.3	128.6
Laundries.....	111.0	119.7	125.8	132.3
Restaurants.....	110.5	117.2	122.9	128.0
General Averages.....	119.1	127.7	133.6	137.9

¹ The durable goods group includes wood products; iron and steel products; transportation equipment; brass and copper products; electrical apparatus and supplies, and clay products; the non-durable goods group includes all other manufacturing industries.

**16.—Hourly Wage Rates for Selected Occupations in Manufacturing by Province,
October 1954**

Industry and Occupation	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
	\$	\$	\$	\$	\$	\$	\$	\$
Household, Office, Store, and Industrial Machinery—								
Machinist.....	..	..	1.40	1.63	1.63	..	..	1.97
Bench.....	..	..	1.27	1.56	..	..	..	..
Moulder—								
Floor.....	..	..	1.60	1.67	..	..	..	..
Machine.....	..	..	1.40	1.78	..	..	..	..
Newsprint—								
Machine tender.....	3.04 ¹	..	3.00	2.92	..	..	..	3.00
Roll-finisher.....	1.54 ¹	..	1.54	1.52	..	..	..	1.64
Sawmills—								
Edgerman.....	0.77	0.97	0.98	1.19	..	..	1.25	1.76
Lumber grader.....	..	0.95	0.97	1.18	..	..	1.01	1.65
Slaughtering and Meat Packing								
Butcher.....	..	..	1.53	1.51	1.64	1.57	1.69	1.68
Truck driver.....	1.22 ²	..	1.60	1.45	1.55	1.52	1.59	1.65
Woollen and Worsted Woven Goods and Yarn—								
Woollen spinner, male.....	..	..	1.02	1.19	1.16	..	..	..
Weaver, female.....	0.63 ²	..	1.03	1.05	0.95 ³	..	..	..

¹ Refers to Atlantic Provinces.² Includes New Brunswick.³ Includes British Columbia.

17.—Hourly Wage Rates for Selected Occupations in Certain Cities 1954

Industry and Occupation	Halifax	Montreal	Toronto	Winnipeg	Vancouver
	\$	\$	\$	\$	\$
Construction (buildings and structures only)—					
Bricklayer and mason.....	1.86	2.00	2.35	2.10	2.40
Carpenter.....	1.61	1.80	2.25	1.90	2.22
Electrician.....	1.71	1.90	2.43	1.90	2.38
Painter.....	1.37	1.70	1.95	1.65	2.12
Plasterer.....	1.75	2.00	2.40	2.10	2.30
Plumber.....	1.70	2.00	2.35	2.00	2.35
Sheet-metal worker.....	1.47	1.80	2.35	1.75	2.30
Labourer.....	1.10	1.25	1.25	1.05	1.60
Manufacturing—					
Labourer, male.....	1.07	1.24	1.30	1.21	1.52
Urban and Suburban Transportation Systems—					
One-man car and bus operator.....	1.46	1.40	1.59	1.50	1.68
Body repairman, bus.....	..	1.50	1.70	1.60	1.80
Repairman, street car.....	1.49	1.40	1.59	1.51	1.73
Electrician.....	1.58	1.52	1.69	1.60	1.82
Labourer.....	1.33	1.15	1.36	1.17	1.48
Printing, Publishing and Allied Industries, Daily Newspapers—					
Hand compositor and linotype operator.....	1.97	2.48	2.80	1.92	2.43
Pressman.....	1.84	2.48	2.80	1.84	2.43
Other than Daily Newspapers—					
Bindery worker, hand, female.....	0.61	0.97	1.07	0.93	1.28
Compositor, hand.....	1.29	2.02	2.17	1.90	2.17
Linotype operator.....	..	2.07	2.18	1.91	2.25
Pressman, cylinder.....	1.20	1.97	2.10	1.86	2.12
Pressman, job.....	1.10	1.81	2.01	1.80	1.94
Pressman, offset.....	..	2.32	2.38	1.95	2.27

**18.—Average Standard or Normal Hours of Labour per Week for Male¹ Employees
in Selected Industries by Province 1950-54**

Industry and Year	Atlantic Prov- inces ²	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia
	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.
Work clothing.....1950	43.5	44.4	41.1	41.0	..	40.0	40.0
1951	43.5	44.6	41.0	41.1	..	40.0	40.4
1952	43.6	45.0	41.0	40.0	..	40.0	42.7
1953	43.8	43.6	41.1	40.4	..	40.0	40.0
1954 ¹	44.0	44.2	40.9	40.0	..	40.0	40.9
Pulp and paper.....1950	48.1	48.4	47.9	48.0	..	..	43.4
1951	48.2	48.5	44.9	40.0	..	..	41.7
1952	47.0	48.2	42.8	40.0	..	..	40.0
1953	44.2	46.4	41.3	..	..	..	40.0
1954 ¹	41.1	41.6	40.6	40.0	..	..	40.0
Wood products.....1950	51.9	53.0	46.9	46.0	44.6	46.3	40.7
1951	50.7	52.4	46.4	45.6	44.2	46.6	40.6
1952	50.4	51.7	46.2	44.2	44.0	45.7	40.6
1953	49.9	50.7	45.7	45.3	45.4	46.1	40.4
1954 ¹	51.0	51.2	46.0	44.2	44.0	45.5	40.7
Meat products.....1950	40.5	44.7	42.6	41.6	41.8	41.5	41.4
1951	40.6	44.2	42.3	41.5	41.8	41.4	40.9
1952	40.8	42.5	41.6	40.1	40.6	40.1	40.0
1953	41.4	41.7	41.8	40.1	40.4	40.0	40.6
1954 ¹	40.9	42.0	41.5	40.2	40.3	40.0	40.0
Iron and its products.....1950	44.5	45.2	42.4	44.9	43.9	42.4	40.1
1951	41.3	45.0	41.9	44.2	44.0	42.6	40.1
1952	41.7	44.8	41.4	43.8	44.0	43.1	40.1
1953	41.0	44.3	41.4	44.3	44.0	41.7	40.8
1954 ¹	40.7	43.2	41.0	43.7	42.8	41.6	40.1
Woollen yarn and cloth.....1950	48.5	46.5	46.1	45.2	45.2	45.2	45.2
1951	46.0	48.1	45.4	45.6	45.6	45.6	45.6
1952	46.1	47.5	45.1	45.3	45.3	45.3	45.3
1953	46.3	46.6	45.7	42.2	..	..	42.2
1954 ¹	44.2	45.9	45.3	42.5	..	..	42.3

¹ Information for 1954 includes female as well as male employees.

² Exclusive of Newfoundland.

**19.—Summary of Working Conditions of Plant Employees in Manufacturing Industries
as at Oct. 1, 1950-51 and Apr. 1, 1953-54**

Source: Annual Survey of Working Conditions, Economics and Research Branch, Department of Labour.

Item	Oct. 1, 1950	Oct. 1, 1951	Apr. 1, 1953	Apr. 1, 1954
Coverage..... No.	735,000	787,000	802,000	803,000
Percentages of Plant Employees				
Standard Weekly Hours—				
40 and under.....	29.4	35.8	43.3	52.8
Over 40 and under 44.....	9.5	13.4	15.3	13.9
44.....	13.5	11.5	10.1	7.7
45.....	18.8	16.7	15.4	12.5
Over 45 and under 48.....	3.1	2.3	2.0	1.7
48.....	19.5	14.4	9.6	7.2
Over 48.....	6.2	5.9	4.3	4.2
Employees on a five day week.....	64.6	69.7	78.5	82.5 ¹
Premium Rates—				
Employees in establishments where higher than straight-time rates are paid after daily or weekly hours.....	90.8	92.1	93.4	..
Employees in establishments where time and one-half is paid after daily or weekly hours.....	89.2	90.2	92.2	..

For footnotes, see end of table.

**19.—Summary of Working Conditions of Plant Employees in Manufacturing Industries
as at Oct. 1, 1950-51 and Apr. 1, 1953-54—concluded**

Item	Oct. 1, 1950	Oct. 1, 1951	Apr. 1, 1953	Apr. 1, 1954
Percentages of Plant Employees				
Shift Differentials—				
Employees in establishments where shift work is performed	64.4	65.2	71.0	..
Employees in establishments where shift differentials are paid	..	..	66.2	..
Cost of Living Bonus or Cost of Living Wage Adjustments—				
Employees in establishments reporting a cost of living bonus or cost of living wage adjustment.....	18.1	34.0	32.0 ²	..
Production or Incentive Bonus—				
Employees in establishments reporting a production or incentive bonus.....	27.9	26.0	28.0 ²	..
Paid Statutory Holidays—				
Employees receiving paid statutory holidays..... ¹	87.1	89.3	94.7	93.6
Employees being paid for the following number of statutory holidays—				
1 to 5.....	21.1	19.4	17.0	17.2
6.....	18.9	15.5	14.5	13.1
7.....	10.7	9.9	12.6	11.3
8.....	30.6	37.8	41.4	43.4
More than 8.....	5.8	6.7	9.2	8.6
Vacations with Pay—				
Eligible for at least one week with pay.....	99.2	99.1	99.3	99.2
One week with pay.....	91.1	91.8	91.1	89.3
After 1 year or less.....	89.2	89.3	87.3	85.8
Service not specified.....	1.9	2.5	3.8	3.5
Eligible for two weeks with pay.....	84.9	89.2	92.6	92.0
After: 1 year or less.....	12.3	14.2	14.9	15.5
2 years.....	8.3	9.3	9.6	10.3
3 years.....	11.5	16.2	22.5	25.5
5 years.....	48.6	46.2	40.4	35.2
Other.....	4.2	3.3	5.2	5.5
Eligible for three weeks with pay.....	39.3	45.5	50.8	53.6
After: 15 years.....	14.3	19.5	28.8	36.9
20 years.....	8.1	12.1	10.9	6.9
Other periods.....	16.9	13.9	11.1	9.8
Eligible for four weeks with pay.....	2.3	2.3	4.0	5.0
After: 25 years.....	2.2	2.0	3.3	4.1
Other.....	0.1	0.3	0.7	0.9
Other vacation periods.....	0.7	1.1	0.9	..
Shutdown for Vacation—				
Employees in establishments reporting a shutdown period	58.0	56.0	61.5	58.9
Employees in establishments reporting a shutdown period of two weeks.....	39.0	41.0	47.6	46.9
Minimum Call Pay—				
Employees in establishments reporting minimum call pay—				
During regular hours.....	..	51.8	..	..
Outside regular hours.....	..	53.5	..	..
Rest Periods—				
Employees in establishments reporting rest periods.....	60.7	..	..	61.7
Employees in establishments receiving two periods of 10 minutes each.....	38.9	..	..	42.7
Wash-up Periods—				
Employees in establishments reporting wash-up periods...	45.2	..	..	..
Employees in establishments receiving two periods of five minutes each.....	19.8	..	..	..
Sick Leave—				
Employees in establishments reporting a provision for sick leave.....	17.5	..	12.7	..
Group Sickness or Accident Insurance Plan—				
Employees in establishments reporting a sickness or accident insurance plan.....	71.2	..	..	..

¹ Includes a small number of employees in plants reporting alternate weeks of 5 and 5½ days.² Oct. 1, 1952.

20.—Summary of Working Conditions of Office Employees in Manufacturing Industries as at Oct. 1, 1950-51 and Apr. 1, 1953-54

SOURCE: Annual Survey of Working Conditions, Economics and Research Branch, Department of Labour.

Item	Oct. 1, 1950	Oct. 1, 1951	Apr. 1, 1953	Apr. 1, 1954
Coverage.....No.	138,000	160,000	183,000	196,000
Percentages of Office Employees				
Standard Weekly Hours—				
Under 37½.....	20.3	20.9	19.4	21.0
37½.....	26.5	28.5	30.1	34.9
Over 37½ and under 40.....	15.0	17.3	19.1	15.0
40.....	21.7	20.5	21.2	21.0
Over 40.....	16.5	12.8	10.2	8.1
Employees on a five day week.....	69.7	75.9	84.1	88.5 ¹
Compensation for Overtime Work—				
Employees in establishments reporting—				
Compensating time off.....	..	..	11.8	..
Remuneration of straight-time rates.....	12.0	14.6	21.4	..
Remuneration at higher than straight-time rates.....	11.2	14.7	21.1	..
Meal allowance ²	47.9	..	41.4	..
Other provisions.....	..	..	2.1	..
Cost of Living Bonus or Cost of Living Wage Adjustments—				
Employees in establishments reporting a cost of living bonus or cost of living wage adjustment.....	18.7	31.6	34.9 ³	..
Paid Statutory Holidays—				
Employees receiving paid statutory holidays.....	98.4	99.1	99.5	98.9
Employees being paid for the following number of statutory holidays—				
1 to 6.....	10.6	9.9	6.9	6.5
7.....	15.2	13.2	12.2	11.4
8.....	53.7	57.2	57.4	61.0
9.....	12.0	11.3	16.1	13.6
More than 9.....	6.9	7.5	6.9	6.4
Vacations with Pay—				
Eligible for at least one week with pay.....	99.2	99.7	99.7	99.8
After 1 year or less.....	59.2	42.8	56.1	65.0
Service not specified.....	1.7	3.5	6.8	1.8
Eligible for two weeks with pay.....	94.9	96.9	97.7	96.0
After: 1 year.....	86.0	88.2	88.5	87.0
2 years.....	4.9	4.2	4.6	5.0
3 years.....	0.6	0.8	0.7	0.8
5 years.....	2.1	1.7	1.9	1.6
Other.....	1.3	2.0	2.0	1.6
Eligible for three weeks with pay.....	48.3	54.6	60.6	63.8
After: 10 years or fewer.....	3.2	4.1	4.0	5.4
15 years.....	16.7	23.1	32.1	43.4
20 years.....	11.8	14.7	14.5	7.2
Other.....	16.6	12.7	10.0	7.8
Eligible for four weeks with pay.....	2.1	2.5	4.4	5.5
After: 25 years.....	1.9	2.1	3.2	4.2
Other.....	0.2	0.4	1.2	1.3
Other vacation periods.....	0.1	0.1	0.1	..
Sick Leave—				
Employees in establishments reporting a provision for sick leave.....	93.2	..	93.7	..
Group Sickness or Accident Insurance Plan—				
Employees in establishments reporting a group sickness or accident insurance plan.....	64.7	..	..	..
Group Life Insurance—				
Employees in establishments reporting group life insurance..	82.3	..	..	87.4
Pension Plan—				
Employees in establishments reporting a pension plan.....	..	64.1	64.3	71.7

¹ Includes a small number of employees in establishments reporting alternate weeks of 5 and 5½ days. ² Meal allowances are sometimes reported as given in addition to other types of overtime compensation; or as the sole type of overtime compensation. ³ Oct. 1, 1952.

Wages of Farm Labour.—Farm wages have been increasing steadily during the past few years. In 1952 they were, almost without exception, up from the level of 1951 and the trend continued in 1953. In 1954 however the rates showed a general levelling off or a slight decline in most of the provinces.

The information on farm wages is provided by volunteer farm correspondents located in all provinces except Newfoundland.

21.—Average Daily and Monthly Wages of Male Farm Help as at Jan. 15, May 15 and Aug. 15, 1951-54

NOTE.—Figures from 1940 are given in the corresponding table of previous Year Books beginning with the 1943-44 edition.

Province and Year	January 15				May 15				August 15			
	Daily		Monthly		Daily		Monthly		Daily		Monthly	
	With Board	Without Board	With Board	Without Board	With Board	Without Board	With Board	Without Board	With Board	Without Board	With Board	Without Board
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Maritimes—												
1951.....	3-80	4-60	74-00	108-00	4-00	4-90	90-00	116-00	4-40	5-30	89-00	118-00
1952.....	4-30	5-40	89-00	118-00	4-30	5-30	92-00	121-00	4-50	5-60	91-00	122-00
1953.....	4-30	5-20	86-00	114-00	4-30	5-30	87-00	115-00	4-60	5-50	85-00	118-00
1954.....	4-30	5-40	89-00	120-00	4-20	5-10	87-00	111-00	4-50	5-60	92-00	123-00
Quebec—												
1951.....	4-00	5-00	79-00	114-00	4-20	5-20	89-00	116-00	4-70	5-80	100-00	134-00
1952.....	4-70	5-70	96-00	129-00	4-60	5-70	95-00	132-00	5-10	6-20	101-00	136-00
1953.....	4-70	5-70	90-00	125-00	4-80	6-00	95-00	127-00	5-10	6-40	97-00	131-00
1954.....	4-60	5-90	93-00	128-00	4-60	5-80	91-00	125-00	4-80	6-00	94-00	127-00
Ontario—												
1951.....	4-30	5-40	77-00	113-00	4-70	5-70	85-00	120-00	5-20	6-40	89-00	124-00
1952.....	4-70	5-90	87-00	121-00	4-80	5-90	88-00	121-00	5-40	6-60	91-00	124-00
1953.....	4-90	6-20	83-00	119-00	5-10	6-30	90-00	123-00	5-60	7-10	93-00	128-00
1954.....	4-90	6-20	84-00	118-00	5-00	6-20	87-00	118-00	5-40	6-80	88-00	125-00
Manitoba—												
1951.....	3-90	5-20	69-00	102-00	4-80	6-00	96-00	129-00	5-90	7-20	104-00	141-00
1952.....	4-40	5-40	80-00	107-00	5-10	6-40	102-00	134-00	6-20	7-90	107-00	141-00
1953.....	4-50	5-50	76-00	108-00	5-30	6-90	105-00	140-00	6-00	8-10	110-00	141-00
1954.....	4-60	5-80	78-00	110-00	5-00	6-20	104-00	135-00	5-90	7-20	105-00	130-00
Saskatchewan—												
1951.....	3-90	4-80	70-00	103-00	4-80	5-80	101-00	133-00	6-30	7-40	109-00	141-00
1952.....	4-10	5-30	75-00	114-00	5-40	6-60	113-00	146-00	7-30	8-30	119-00	151-00
1953.....	4-70	6-10	81-00	117-00	6-00	7-50	122-00	148-00	6-60	8-10	124-00	152-00
1954.....	4-90	6-10	80-00	111-00	5-80	7-50	118-00	145-00	5-90	7-50	120-00	148-00
Alberta—												
1951.....	3-70	4-80	76-00	104-00	4-70	6-00	100-00	133-00	5-70	6-90	110-00	147-00
1952.....	4-50	5-50	91-00	125-00	5-70	6-90	112-00	145-00	7-00	8-10	118-00	155-00
1953.....	5-20	6-20	96-00	131-00	6-20	7-60	115-00	154-00	6-50	8-10	122-00	156-00
1954.....	5-50	6-80	97-00	135-00	5-70	7-30	115-00	148-00	6-10	7-40	117-00	152-00
British Columbia—												
1951.....	6-30	7-60	90-00	141-00	5-70	7-00	105-00	142-00	6-40	7-20	112-00	140-00
1952.....	6-60	7-90	92-00	146-00	5-90	7-20	107-00	152-00	6-40	7-40	112-00	145-00
1953.....	6-80	8-60	110-00	146-00	6-12	7-90	108-00	160-00	5-75	7-00	110-00	146-00
1954.....	6-20	8-30	99-00	140-00	5-90	7-50	111-00	156-00	6-80	8-00	120-00	159-00
Totals—												
1951.....	4-10	5-10	75-00	110-00	4-40	5-40	95-00	127-00	5-20	6-30	101-00	135-00
1952.....	4-60	5-70	86-00	121-00	4-90	6-00	101-00	135-00	5-60	6-70	105-00	139-00
1953.....	4-70	5-80	87-00	122-00	5-00	6-20	105-00	138-00	5-50	6-80	107-00	140-00
1954.....	4-60	5-90	88-00	122-00	4-80	6-00	102-00	133-00	5-10	6-40	106-00	139-00

SEASONAL UNEMPLOYMENT IN CANADA*

The Canadian economy has long been plagued by the problem of seasonal unemployment, a problem which has recently been receiving serious and increasing attention from governments, industry and labour. Basically, seasonal unemployment in Canada is caused by the climatic conditions of the country though its extent is accentuated by habits of employers and consumers that have become part of the production and marketing picture. Thus it is a natural result of a natural condition which cannot be changed or eradicated but must be dealt with by a concerted effort to devise ways and means of alleviating its effects on both the industries concerned and the workers laid off.

There are of course other types of unemployment. Mass unemployment, such as occurred in the 1930's, may result directly from a lowering of the general level of economic activity in the country. On the other hand there are always people changing jobs and the brief periods of idleness usually involved in such changes are termed "frictional unemployment". The distinguishing mark of seasonal unemployment is its regular recurrence. In Canada many businesses reduce their activities in the winter months or close down altogether because of the cold weather, the ice and the snow. As a result unemployment, usually at a minimum in September, rises sharply to a peak during the winter. For example during the winter of 1954-55 the number of persons without jobs and seeking work reached a peak of 401,000 at Mar. 1 but by July 1 the total had dropped to 150,000. This pattern is repeated to varying degrees each year, as is shown in the Chart opposite.

The extent of seasonal unemployment is, in part, dependent upon the general level of economic activity. During World War II when there was a shortage of manpower the volume of seasonal unemployment was small but, as demand pressures on the economy gradually eased, that volume increased steadily. Also the number of persons employed in the country's seasonal industries has grown year by year in the postwar period so that seasonal unemployment has become a progressively more serious social problem in Canada. This is pointedly illustrated by the fact that there was a significant increase in the volume of seasonal unemployment during the winters of 1953-54 and 1954-55 when the general level of economic activity moderated. It should be remembered moreover that seasonal unemployment, like other types of unemployment, may set up a chain reaction and create still more unemployment. Unemployed persons tend to restrict their consumption which in turn restricts sales and finally affects production and employment.

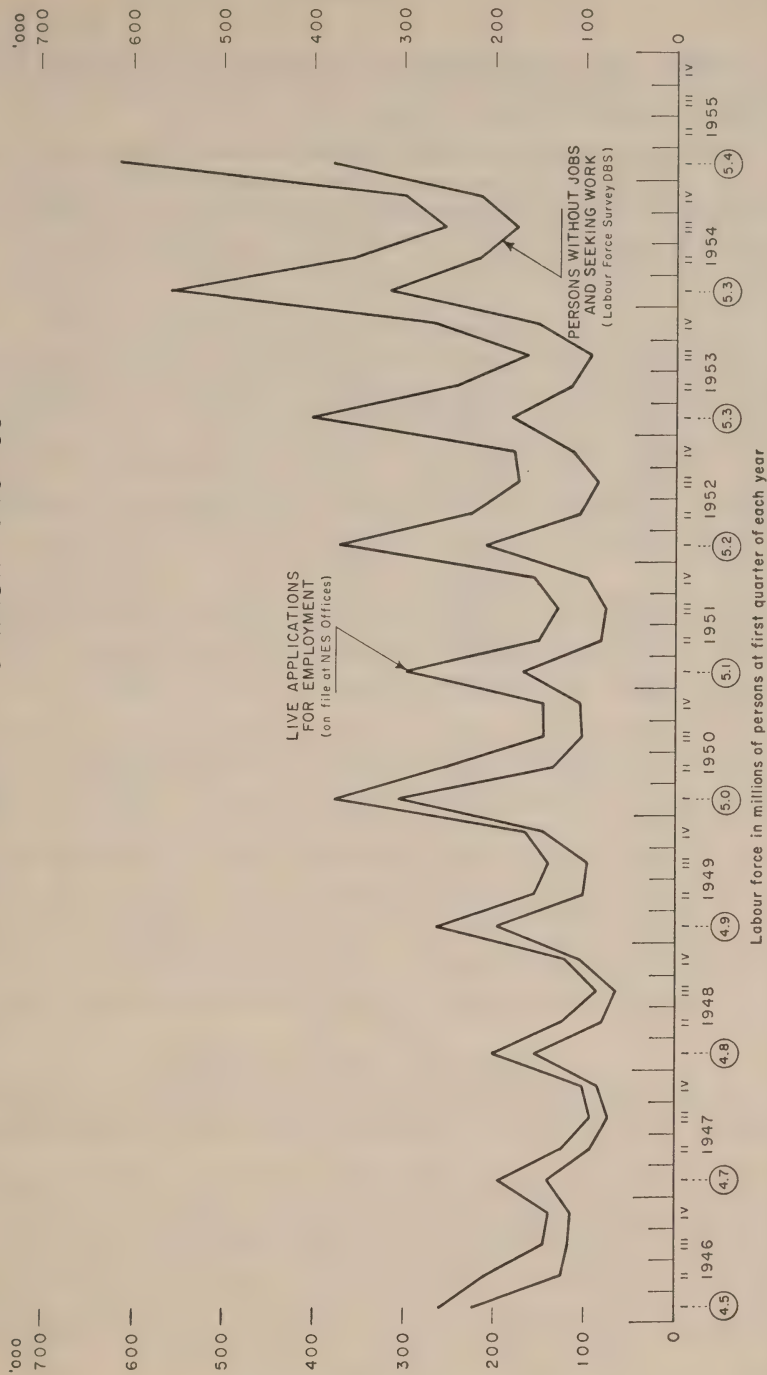
TYPES AND EFFECTS OF SEASONAL UNEMPLOYMENT

There are two definite types of seasonal unemployment, both of which stem from weather conditions. The most readily recognized type results from the direct effects of climate on the production process. It is obvious that it is either impossible or very difficult to conduct certain production operations in certain seasons. Canadian farmers for instance cannot with the best will in the world plant wheat in February. Ice makes inland navigation impracticable in winter and cold weather causes difficulty for the salt water fisherman. The canning industry must obviously operate largely in the summer and autumn when fruits and vegetables are harvested. On the other hand logging in eastern Canada is an autumn and winter industry since the frost and snow makes transportation in the woods easier and the spring thaw is depended upon to provide high water for the log drives.

The other type of seasonal unemployment occurs in industries in which marketing rather than production is affected by the climate or by the time of year. Because of the buying habits of Canadian consumers retail trade reaches its annual peak from October

* Prepared in the Manpower Analysis Division, Economics and Research Branch, Department of Labour, Ottawa.

UNEMPLOYMENT IN CANADA 1946-55



to December. The clothing industry, strongly influenced by fashion and seasonal requirements, has high points in the spring and the autumn; the demand for agricultural implements is highest in spring and summer.

The total adverse effect of regularly recurring temporary unemployment is impossible to assess. The most serious factor is the waste of manpower involved. Man-hours not used can never be regained. It is estimated that there are 250,000 Canadians seasonally unemployed each winter even in years of generally high employment, but if the economy slows a little the number increases and the loss in man-hours and wages is that much greater.

Another factor to consider is the annual cost of maintaining seasonally unemployed workers. Employers and employees jointly bear most of the cost of unemployment insurance benefits, both regular and supplementary; the Government contributes one-fifth of their total contribution and bears the administrative costs. During the period January to April 1955 the Unemployment Insurance Commission paid out more than \$142,000,000 in unemployment insurance benefits, of which about \$29,000,000 were supplementary payments. Supplementary benefits are paid to certain classes whose benefits have been exhausted or who are not entitled to ordinary benefit during the period Jan. 1 to Apr. 15 each year.

The cost of maintaining those seasonally unemployed not covered by unemployment insurance or supplementary payments falls on public relief funds, charitable organizations, churches and private persons. In addition to such direct assistance there are the intangible personal and social costs which are associated with unemployment, whatever its cause.

Of course not all workers holding seasonal jobs are unemployed for an extended period. This becomes clear when the different groups of people engaged in seasonal work are considered. One group consists mostly of students, housewives, retired people and others who enter the labour force at peak periods but withdraw when their jobs come to an end or school reopens. Another group includes those workers who transfer from one industry to another—for example from farming to logging—as the seasons change. Some shifts are also made by workers from one area to another within the same industry. A third group includes those who work for only a part of the year but who are looking for work for the balance of the year. These are the seasonally unemployed, but they constitute only a portion of the total number of workers affected by seasonality of employment.

SEASONALITY AMONG THE INDUSTRIES

The degree of seasonality varies considerably from industry to industry. The following statement shows the amplitudes of seasonal variations for all non-agricultural industrial groups, together with the months of peak and trough employment, the approximate number of seasonal employees, and the average peak number of employees. The figures quoted are all averages for the years 1947-51. The "amplitude of seasonal employment variations" is defined as the average difference between peak and trough employment when both are expressed as percentages of average employment. The greater the amplitude, the greater the proportion of seasonal employees. Because the data are derived from establishments usually employing 15 or more persons and small firms are omitted, the figures for seasonal employees and average employment are on the conservative side.

AMPLITUDE OF SEASONAL EMPLOYMENT VARIATIONS, MONTHS OF PEAK AND TROUGH EMPLOYMENT, NUMBER OF SEASONAL EMPLOYEES, AND AVERAGE PEAK EMPLOYMENT FOR NON-AGRICULTURAL INDUSTRIAL GROUPS

(All figures are averages for the years 1947-51.)

Industrial Group	Amplitude	Month of Peak Employment	Month of Trough Employment	Seasonal Employees ¹	Average Peak Employment
	p.c.			No.	No.
FORESTRY (chiefly logging).....	69.3	December	May	55,100	105,600
MINING.....	3.7	August	March	3,250	87,100
MANUFACTURING.....	4.0	October	January	20,900	1,044,800 ²
Food and beverages.....	23.2	October	April	27,700	134,700
Tobacco products.....	24.7	February	August	2,600	11,500
Rubber products.....	2.9	December	August	600	21,100
Leather products.....	5.6	March	January	1,700	31,500
Textile products.....	4.6	March	August	3,300	73,700
Clothing.....	7.4	April	August	6,900	97,000
Wood products.....	11.3	August	Jan.-Feb.	9,500	89,100
Paper products.....	7.0	September	March	5,000	74,600
Printing, publishing and allied industries.....	1.3	³	³	600	43,800
Iron and steel products.....	1.1	April	August	1,900	160,100
Transportation equipment.....	4.0	October	February	4,400	114,500
Non-ferrous metal products.....	1.6	April	January	700	45,700
Electrical apparatus and supplies.....	2.1	April	August	1,200	58,100
Non-metallic mineral products.....	7.0	August	March	1,700	25,600
Products of petroleum and coal.....	6.1	August	February	600	10,300
Chemical products.....	2.6	July	January	1,200	46,000
Miscellaneous.....	10.8	December	August	1,300	12,700
CONSTRUCTION.....	38.6	September	March	73,600	223,500
TRANSPORTATION.....	9.3	August	March	22,300	250,800
STORAGE.....	13.8	November	March	2,000	15,900
COMMUNICATION.....	5.5	August	March	2,500	47,000
PUBLIC UTILITY OPERATION.....	9.8	August	April	3,600	38,600
TRADE.....	9.4	January	March	27,800	315,000
FINANCE, INSURANCE AND REAL ESTATE	1.1	October	March	1,000	90,250
SERVICE.....	11.0	August	March	8,600	82,900
ALL NON-AGRICULTURAL INDUSTRIES.....	6.9	DECEMBER	APRIL	270,650	2,250,000 ²

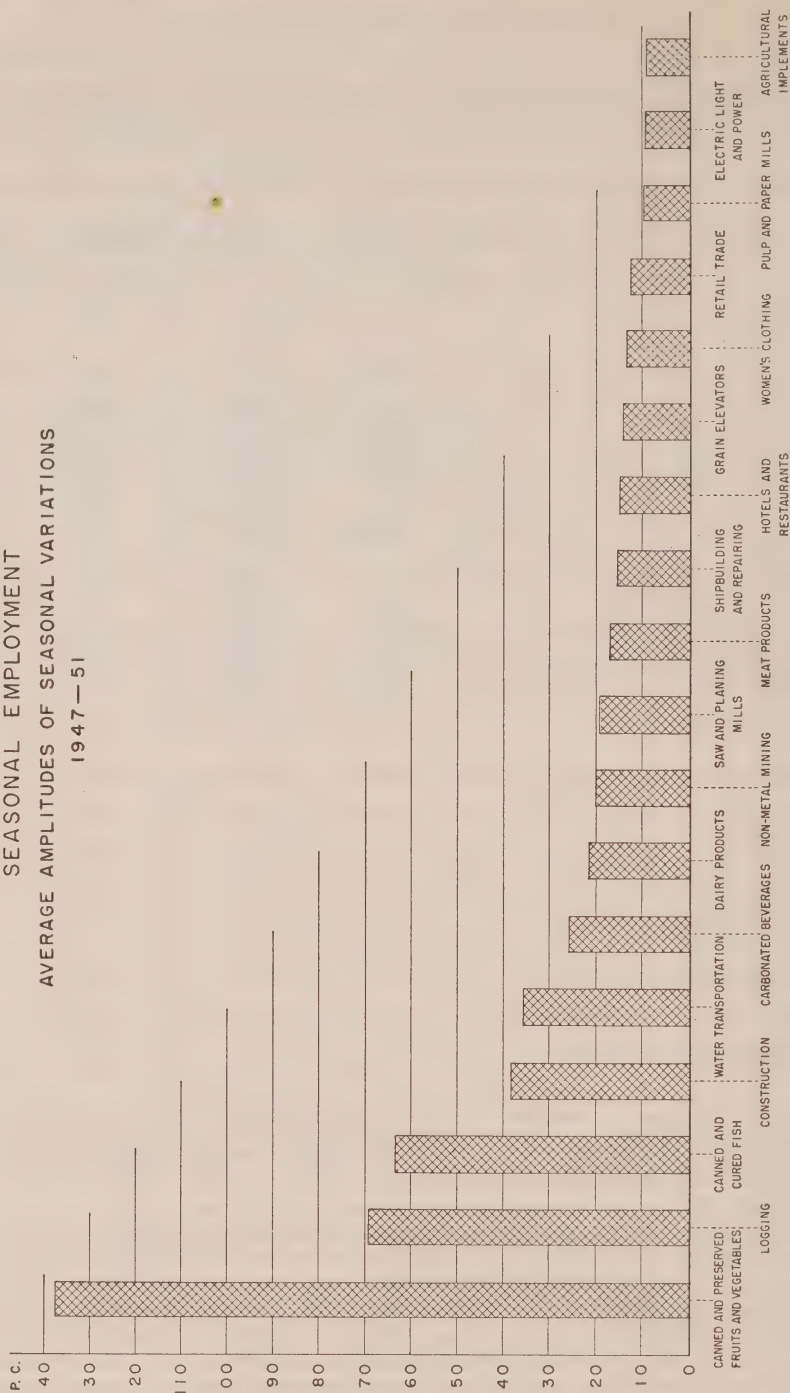
¹ These figures cannot be interpreted as the number of persons who are likely to be seasonally unemployed at any particular time because not all seasonal employees want year-round jobs and some may transfer from one industry to another (see text on p. 760).

² This figure is not the sum of the figures for component groups because peak employment does not occur at the same time for all groups.

³ The seasonal pattern in this industry is too erratic to establish a definite peak or trough.

The figures for standard classification groups given in the statement do not of course show the extent of seasonality in the individual industries included in those groups; high employment in one component industry within a group often tends to offset low employment in another component industry. The following Charts illustrate the extent to which 18 of Canada's most seasonal non-agricultural industries are subject to seasonal employment variations; the first shows the amplitude of seasonal employment variations in the different individual industries and the second shows the absolute number of seasonal employees in the same industries.

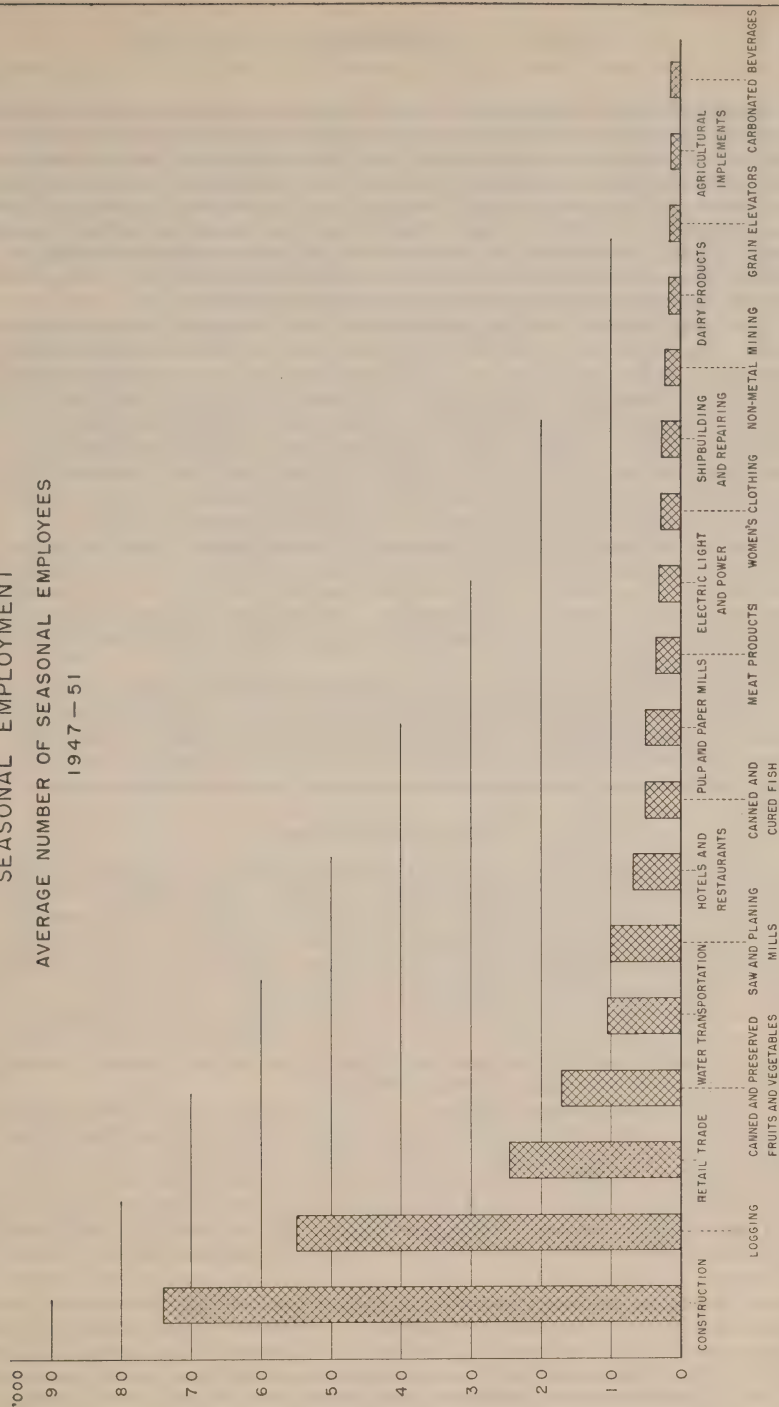
SEASONAL EMPLOYMENT AVERAGE AMPLITUDES OF SEASONAL VARIATIONS 1947-51



SEASONAL EMPLOYMENT

AVERAGE NUMBER OF SEASONAL EMPLOYEES

1947 - 51



Certain industries, although they have large seasonal variations, do not contribute proportionately to seasonal unemployment because their seasonal workers consist largely of students, housewives or other persons who do not in general want year-round jobs. Industries in this group are retail trade, hotels and restaurants, canned and preserved fruits and vegetables, some parts of non-metal mining and some parts of tobacco and tobacco products. On the other hand some industries are so strongly affected by climatic changes that they are virtually unable to conduct their normal activities during the winter months. These include water transportation, construction of highways and streets and, to a lesser extent, shipbuilding and repairing, and grain elevators.

The forest industries—logging, sawmills, and pulp and paper mills—are in a unique position. Employers very often conduct operations in two or in all three of these branches which means that at least a part of their work force can be transferred regularly from logging to mill work or vice versa. In fact seasonal employment variations in sawmills and pulp and paper mills do not present as serious an employment problem as in most other industries because many of the workers seasonally laid off are absorbed in logging in the winter months. And although logging employs a much larger seasonal labour force than sawmills and pulp and paper mills the difference is largely composed of farmers and fishermen who return to these occupations when the logging season is over.

Some industries are affected by seasonal variations in their supply of raw materials or in the demand for their products, or a combination of the two. It is in these industries in particular that constructive action to reduce seasonal variations on the part of employers, unions and consumers may be most effective. The category includes planing mills, meat and dairy products, canned and cured fish, carbonated beverages, women's clothing and agricultural implements.

The building construction industry, of special significance because it accounts for a large part of the seasonally unemployed in Canada, is one in which co-operative planning for the reduction of seasonal employment is particularly important. With regard to this industry however the public must be educated to accept the fact that construction work can be done during the winter—a season traditionally considered impracticable for such activity.

STABILIZATION MEASURES

Many effective steps may be taken to stabilize employment, particularly in the industries falling in the last two groups mentioned above. These include diversification of products, stockpiling of raw materials and finished goods, the levelling of seasonal consumer spending habits, the scheduling of repairs and alterations in the offseason, the transfer of employees between departments of the business, the training of workers for jobs that are available at different seasons and the taking of holidays in the slack season.

However the measures that may be taken to reduce seasonal employment vary considerably from industry to industry. The problem as it exists for three of Canada's most seasonal industries—water transportation, women's clothing and building construction—is examined here as an indication of that variability.

In the *water transportation industry* climatic conditions are the most important cause of seasonal unemployment but coastal navigation is much less affected than inland water transportation. On the Atlantic Coast the ports do more business when the St. Lawrence River is closed, although some do much larger coastal and overseas trade than others. On the Pacific Coast, where there is no competing inland waterway, the water transportation business is more stable. Companies operating on the Great Lakes and the St. Lawrence River however are forced to shut down for several months each year because of ice and storms. Employment in this industry also varies to some extent because of the seasonal fluctuation in demand for service, an indirect result of climatic variations. Although operations are interrupted completely during the winter in a large part of this industry, some companies try to keep part of their crews, particularly officers, busy all the year by using them to do repair and maintenance work in the slack season. A few firms encourage their men to accumulate leave credits so that this leave may be taken with pay when work is not available, thus delaying layoffs as long as possible.

The *women's clothing industry* has two seasonal cycles. Not all clothing firms have the same employment pattern but in general employment is above average in late winter and spring and again in the autumn, and below average in summer and at the end of the year. Annual changes in styles force producers to concentrate manufacturing in a short period of time and demand is affected by the switch from winter to summer garments and back again. Some firms produce only on an order basis—orders follow fashion changes and production follows orders—which results of course in seasonal variations in employment. Seasonal fluctuations in supplies of textiles also affect some women's apparel establishments, particularly dress and suit manufacturers. Materials and colours change with styles and textiles are altered accordingly, putting a premium on speed and tending to compress employment into short periods.

The steps taken to reduce seasonal unemployment in this industry are mainly designed to increase demand in the slack season. Some reductions in employment variations have been made by distributing samples earlier and by encouraging retailers to order earlier in the season. New lines and styles have been added by some firms in order to increase slack season demand and sales are 'pushed' in the offseason by others. In addition the slack season is sometimes used for training unskilled workers and a few firms produce at or near cost during the months when they would otherwise be forced to shut down. Earlier ordering by wholesale and retail buyers, greater diversification of products and the stock-piling of standard garments in the offseason would also help to reduce seasonal employment variations.

The *building construction industry* is busy from spring to late autumn with the peak coming in summer. Winter is the period of greatest unemployment, because excavating, bricklaying, roofing, steel erection and concrete pouring are made more difficult by cold, ice and snow. Another contributing cause is the seasonal fluctuation in the demand for construction work. It is largely a matter of custom to associate construction work with warmer weather even though modern materials and methods permit winter work.

Many techniques are now being used to reduce seasonal unemployment in this industry. The most common is to plan early operations so as to get the building closed in by winter and then, with the use of artificial heat and light, complete the interior during the winter. New methods, such as the use of tarpaulins and the addition of calcium chloride to concrete, and improved equipment such as heaters for sand and gravel have helped to make winter work easier. Also price adjustments have had their effect—lower markups for winter work or no increase in prices for work done in winter even though it may be more costly than work done in other seasons. Further reductions are possible if tenders are called in autumn and winter so that actual construction may begin in early spring. Attempts too are being made to analyze the extent to which construction costs are higher in winter, the specific reasons for this and the possibility of erasing the differential.

The Federal Government has been pursuing research into the problem of seasonal unemployment for some years. In 1953 a detailed study of the question was undertaken at the request of the National Advisory Council on Manpower. The National Employment Committee, through the Regional and Local Employment Committees, questioned more than 600 employers in 18 of the most seasonal industries on the causes of seasonal variations in their employment and on the methods in use or recommended to reduce such variations. An analysis of the replies was made by the Economics and Research Branch of the Department of Labour and published in 1954 in English and French in a pamphlet entitled *Seasonal Unemployment in Canada*. About 24,000 copies of this pamphlet were distributed throughout the country.

During the winter of 1954-55 an active publicity campaign was conducted through radio broadcasts, printed material and talks to employer and union groups and was participated in by 154 local employment advisory committees. Speakers for the broadcasts included the Minister of Labour, employers and industrial and labour organization leaders. Federal Government departments undertaking new construction and maintenance and repair jobs have been arranging to award the contracts for such work in the autumn and early winter

so that more employment will be provided in the winter. Wherever possible procurement of material and supplies has also been timed to provide increased work during winter. Provincial governments have taken similar measures and management, trade and union groups have co-operated in the plans to increase employment in the offseason.

Through action in these fields and through education and publicity, it is certain that governments, employers, workers and the public can contribute substantially toward reduction in the waste of human and other resources caused by seasonal unemployment as well as toward reducing the need for various kinds of assistance for laid-off workers.

Section 5.—Unemployment Insurance

The Unemployment Insurance Act, which came into operation on July 1, 1941, applies to all employed persons except the following: workers in specified industries or occupations such as agriculture, fishing, the Armed Forces, the permanent public service of the Federal Government, provincial governments and municipal authorities, private domestic service, private duty nursing; certain director-officers of corporations; workers on other than hourly, daily or piece rates if earning more than \$4,800 a year and (except by consent of the Unemployment Insurance Commission) technical and professional employees in a hospital or charitable institution not carried on for gain. All employees paid by the hour, day or on piece rate (including a milage rate) are insured regardless of amount of earnings, together with all employees who receive \$4,800 or less per annum under weekly, monthly or yearly rates.

Unemployment Insurance Fund.—Employers and employees contribute to the Unemployment Insurance Fund, the total paid by each group being equal. The Federal Government contributes an amount equal to one-fifth of the combined employer-employee contributions and assumes the cost of administration. From July 1, 1941 to Mar. 31, 1955 employers and employees contributed \$1,400,136,620 to the Fund and the Federal Government added \$280,033,508. Interest and profit on sale of securities amounted to \$172,090,658 and fines of \$219,248 made a total revenue of \$1,852,480,034.

Benefits first became payable on Jan. 27, 1942 and, from then to Mar. 31, 1955, total benefit payments amounted to \$1,011,787,717, leaving a balance of \$840,692,317 in the Fund. Reserves of the Fund are invested in Government of Canada bonds and, as at Mar. 31, 1955, the par value of bonds held amounted to \$840,448,000.

WEEKLY RATES OF CONTRIBUTION AND BENEFIT UNDER THE UNEMPLOYMENT INSURANCE ACT, EFFECTIVE OCT. 2, 1955

Range of Earnings	Weekly Contributions ¹		Value of Weekly Stamp ²	Range of Average Weekly Contributions	Weekly Rate of Benefit ³	
	Employer	Employee			Person Without Dependant	Person With Dependant
	cts.	cts.	cts.	cts.	\$	\$
Less than \$ 9.00 ⁴	8	8	16	Less than 20.....	6	8
\$ 9.00 to \$14.99.....	16	16	32	20 and under 27.....	9	12
\$15.00 to \$20.99.....	24	24	48	27 " " 33.....	11	15
\$21.00 to \$26.99.....	30	30	60	33 " " 39.....	13	18
\$27.00 to \$32.99.....	36	36	72	39 " " 45.....	15	21
\$33.00 to \$38.99.....	42	42	84	45 " " 50.....	17	24
\$39.00 to \$44.99.....	48	48	96	50 " " 54.....	19	26
\$45.00 to \$50.99.....	52	52	1.04	54 " " 58.....	21	28
\$51.00 to \$56.99.....	56	56	1.12	58 to 60.....	23	30
\$57.00 or over.....	60	60	1.20			

¹ The weekly contribution is based on actual earnings in the week irrespective of the number of days in which the earnings are obtained. ² Unemployment insurance stamps combine both employer and employee contributions.

³ Rates calculated on the average weekly contributions for the last 30 weeks in the 104 weeks preceding claim. Since Oct. 2, 1955 a claimant to qualify for benefit must have at least 30 weekly contributions in the last 104 weeks prior to claim; 8 weeks must be in the last 52 weeks. (These periods of 104 weeks and 52 weeks may be extended under certain circumstances.) ⁴ Employees earning less than \$9 in a week receive one-half of a 32 cent stamp (8 cts. from the employer and 8 cts. from the employee).

The duration of benefit is related to the contribution history—one week's benefit for every two weeks' contributions in the past 104 weeks with a maximum of 36 weeks. The rate of benefit is determined by the average of the contributions in the past 30 weeks. No benefit is payable in a benefit period until a claimant has served a waiting period equivalent to one full week's benefit.

Disqualifications for benefit include: loss of work owing to a labour dispute in which the contributor is participating or directly interested; unwillingness to accept suitable employment; being an inmate of any prison or an institution supported out of public funds; refusal to attend a course of instruction or training if directed to do so; residence outside Canada unless otherwise prescribed. Disqualification of a claimant for a period not exceeding six weeks may be made if an employee is discharged by reason of his own misconduct or leaves the employment voluntarily without just cause or refuses suitable employment.

Seasonal benefit is payable in the period Jan. 1 to Apr. 15 to certain claimants whose benefits have been exhausted or who have insufficient contributions to qualify for regular benefit.

22.—Persons Insured under the Unemployment Insurance Act by Industrial Group and Sex 1953 and 1954

NOTE.—These figures include only persons who exchanged an unemployment insurance book or were issued a book for the first time in April. They therefore represent an estimate of the number, based on a 10 p.c. sample, in insurable employment as at Apr. 1.

Industrial Group	1953		1954	
	Male	Female	Male	Female
	No.	No.	No.	No.
Agriculture	1,590	610	2,030	630
Forestry and Logging	71,470	1,700	53,760	1,430
Fishing, Hunting and Trapping	320	—	70	40
Mining, Quarrying and Oil Wells	88,340	2,570	92,230	3,030
Metal mining.....	50,280	1,130	51,120	1,170
Fuels.....	23,470	720	25,750	930
Non-metal mining.....	8,260	150	8,730	210
Quarrying, clay and sand pits.....	2,490	50	2,540	40
Prospecting.....	3,840	520	4,090	680
Manufacturing	896,490	284,170	875,430	268,020
Food and beverages.....	98,110	33,780	98,170	33,330
Tobacco and tobacco products.....	3,310	4,570	3,240	4,750
Rubber products.....	16,680	5,470	14,770	4,820
Leather products.....	18,490	13,670	16,320	11,860
Textile products (except clothing).....	41,980	25,330	35,780	20,660
Clothing (textile and fur).....	37,460	78,120	32,970	70,120
Wood products.....	87,810	8,710	81,000	8,030
Paper products.....	64,790	11,620	67,680	11,680
Printing, publishing and allied industries.....	35,200	15,440	35,260	15,910
Iron and steel products.....	164,440	19,380	149,600	17,770
Transportation equipment.....	148,180	13,420	152,680	12,610
Non-ferrous metal products.....	42,950	6,950	45,420	7,600
Electrical apparatus and supplies.....	52,040	21,150	52,750	22,580
Non-metallic mineral products.....	25,640	3,270	25,400	3,090
Products of petroleum and coal.....	10,670	960	11,980	930
Chemical products.....	32,490	11,780	36,380	12,340
Miscellaneous manufacturing industries.....	16,250	10,550	16,030	9,960
Construction	193,070	6,800	175,400	6,580
General contractors.....	132,760	3,980	111,380	3,220
Special trade contractors (subcontractors).....	60,310	2,820	64,020	3,360
Transportation, Storage and Communication	295,570	48,290	276,340	51,970
Transportation.....	267,740	15,880	245,320	16,490
Storage.....	11,120	1,610	12,350	1,690
Communication.....	16,710	30,800	18,670	33,790
Public Utility Operation	30,180	4,130	32,060	4,740

22.—Persons Insured under the Unemployment Insurance Act by Industrial Group and Sex 1953 and 1954—concluded

Industrial Group	1953		1954	
	Male	Female	Male	Female
	No.	No.	No.	No.
Trade	303,280	191,360	321,820	200,450
Wholesale.....	108,670	35,260	116,670	38,710
Retail.....	194,610	156,100	205,150	161,740
Finance, Insurance and Real Estate	43,670	67,360	46,270	71,460
Service	196,560	151,680	192,650	152,820
Community or public.....	13,150	16,580	14,610	17,680
Government.....	89,110	33,090	81,930	30,460
Recreation.....	9,640	5,990	9,450	5,990
Business.....	23,030	17,550	24,840	19,570
Personal.....	61,630	78,470	61,820	79,120
Unspecified	6,840	2,050	17,330	4,650
Claimants	215,230	47,350	308,840	71,060
Totals, All Industries	2,342,610	808,070	2,394,230	836,880

23.—Persons Establishing Benefit Years, Benefit Years Terminated, Benefit Days Paid on Benefit Years Terminated and Amount of Benefit Paid on those Benefit Years by Province 1953 and 1954.

Province	1953				1954			
	Persons Establishing Benefit Years	Benefit Years Terminated	Benefit Days Paid on Benefit Years Terminated	Amount of Benefit Paid on Benefit Years Terminated ¹	Persons Establishing Benefit Years	Benefit Years Terminated	Benefit Days Paid on Benefit Years Terminated	Amount of Benefit Paid on Benefit Years Terminated ¹
	No.	No.	No.	\$	No.	No.	No.	\$
Newfoundland.....	22,418	18,908	1,133,424	3,663,564	22,992	24,366	1,706,256	5,821,566
Prince Edward Island.....	4,046	3,826	265,068	728,634	4,378	4,478	341,134	995,759
Nova Scotia.....	44,472	38,418	2,280,650	6,829,767	40,822	47,106	3,049,890	9,773,395
New Brunswick.....	36,424	35,988	2,262,366	6,839,860	36,816	39,978	2,848,184	8,993,363
Quebec.....	294,454	263,880	16,150,436	47,412,324	314,756	313,002	22,010,850	66,900,326
Ontario.....	259,792	233,528	12,066,924	35,816,470	343,988	284,126	18,996,876	59,171,052
Manitoba.....	34,852	31,612	2,098,940	6,032,049	41,052	37,892	2,758,438	8,255,521
Saskatchewan.....	17,432	15,472	940,270	2,777,865	24,500	19,606	1,339,914	4,142,058
Alberta.....	39,752	30,534	1,620,386	4,982,045	50,416	42,924	2,652,272	8,533,015
British Columbia.....	98,968	98,518	5,841,724	18,507,090	105,054	104,258	6,821,272	21,994,364
Totals	852,610	770,684	44,660,188	133,589,668	984,774	917,736	62,525,086	194,580,419

¹ These data are obtained from the daily rate of benefit authorized at the time the benefit year is established and the number of benefit days paid during the benefit year.

24.—Number of Benefit Years Terminated during 1953 and 1954 by Duration of Benefit Payment

Duration of Benefit Paid (days)	1953	1954	Duration of Benefit Paid (days)	1953	1954	Duration of Benefit Paid (days)	1953	1954
No.	No.	No.	No.	No.	No.	No.	No.	No.
0.....	91,180	70,364	105-109.....	10,688	16,620	215-219.....	1,294	2,122
1- 4.....	28,086	27,670	110-114.....	9,336	14,752	220-224.....	1,164	1,858
5- 9.....	32,042	32,858	115-119.....	8,180	13,030	225-229.....	1,178	1,730
10-14.....	28,680	29,550	120-124.....	7,296	11,588	230-234.....	1,144	1,848
15-19.....	27,952	27,780	125-129.....	6,422	10,422	235-239.....	984	1,576
20-24.....	26,598	26,938	130-134.....	5,528	9,236	240-244.....	1,020	1,552
25-29.....	25,544	24,752	135-139.....	5,006	8,582	245-249.....	1,038	1,486
30-34.....	25,048	25,240	140-144.....	4,366	7,574	250-254.....	912	1,572
35-39.....	45,934	50,678	145-149.....	3,908	6,732	255-259.....	904	1,536
40-44.....	35,368	39,790	150-154.....	3,398	6,182	260-264.....	892	1,300
45-49.....	35,108	40,876	155-159.....	3,306	5,522	265-269.....	1,008	1,280
50-54.....	34,304	40,518	160-164.....	2,928	5,094	270-274.....	992	1,436
55-59.....	33,094	39,780	165-169.....	2,418	4,864	275-279.....	938	1,296
60-64.....	30,628	39,282	170-174.....	2,308	4,206	280-284.....	978	1,372
65-69.....	28,356	36,974	175-179.....	2,162	3,856	285-289.....	1,074	1,428
70-74.....	25,830	34,576	180-184.....	1,976	3,456	290-294.....	1,056	1,398
75-79.....	23,310	31,770	185-189.....	1,928	3,404	295-299.....	1,110	1,592
80-84.....	21,096	29,464	190-194.....	1,700	2,994	300 or over....	3,232	3,898
85-89.....	19,014	26,474	195-199.....	1,660	2,816			
90-94.....	16,776	24,068	200-204.....	1,590	2,738			
95-99.....	14,604	21,066	205-209.....	1,388	2,392			
100-104.....	12,394	18,902	210-214.....	1,328	2,166			
						Totals.....	770,684	917,736

25.—Benefit Years Terminated during 1953 and 1954 and Benefit Days Paid on those Benefit Years, classified by Daily Rate of Benefit Authorized and Dependency Status

Daily Rate of Benefit and Dependency Status	1953		1954	
	Benefit Years Terminated	Benefit Days Paid	Benefit Years Terminated	Benefit Days Paid
	No.	No.	No.	No.
With Dependant.....	368,308	22,076,192	438,728	30,867,850
\$0-80.....	76	4,502	64	6,024
\$1-25.....	518	41,826	436	34,050
\$1-70.....	1,022	73,118	—	—
\$2-00.....	1,464	115,802	2,254	175,546
\$2-15.....	2,818	184,420	—	—
\$2-50.....	3,820	298,610	5,944	477,566
\$2-60.....	9,576	584,544	—	—
\$3-00.....	11,636	857,088	18,542	1,411,774
\$3-05.....	51,520	2,840,358	—	—
\$3-50.....	156,666	8,972,238	109,860	7,983,680
\$4-00.....	129,192	8,103,686	301,628	20,779,210
Without Dependant.....	402,376	22,583,996	479,008	31,657,236
\$0-70.....	314	20,430	226	14,874
\$1-00.....	3,980	230,680	3,178	211,008
\$1-35.....	10,630	504,346	—	—
\$1-45.....	14,258	883,054	23,802	1,475,074
\$1-70.....	19,414	937,558	—	—
\$1-80.....	24,560	1,547,484	46,518	2,952,958
\$2-05.....	29,454	1,473,208	—	—
\$2-15.....	36,754	2,345,140	72,822	4,777,132
\$2-40.....	61,628	2,928,998	—	—
\$2-50.....	75,290	4,687,934	154,636	10,280,264
\$2-70.....	49,548	2,372,304	—	—
\$2-85.....	76,546	4,652,860	177,826	11,945,926
Totals.....	770,684	44,660,188	917,736	62,525,086

26.—Benefit Years Terminated during 1953 and 1954, Benefit Days Paid on those Benefit Years and Benefit Years Terminated by Age of Claimant

Age Group	1953				1954			
	Benefit Years Terminated	Days Paid on Benefit Years Terminated	Benefit Years Terminated		Benefit Years Terminated	Days Paid on Benefit Years Terminated	Benefit Years Terminated	
			Lapsed	Exhausted			Lapsed	Exhausted
	No.	No.	No.	No.	No.	No.	No.	No.
Under 20 years.....	37,014	1,444,648	18,584	18,430	46,116	2,142,228	18,648	27,468
20 - 24 years.....	137,368	6,535,834	97,698	39,670	162,812	9,587,586	102,918	59,894
25 - 29 ".....	118,752	6,094,904	88,568	30,184	142,636	9,058,402	97,346	45,290
30 - 34 ".....	94,956	4,917,320	70,828	24,128	117,738	7,439,934	80,130	37,608
35 - 39 ".....	77,696	4,118,432	56,062	21,634	91,102	5,863,974	60,682	30,420
40 - 44 ".....	69,474	3,757,308	49,408	20,066	88,228	5,831,008	57,106	31,122
45 - 49 ".....	59,952	3,429,448	41,996	17,956	72,312	4,981,194	45,840	26,472
50 - 54 ".....	51,394	3,156,684	34,454	16,940	60,786	4,376,950	37,518	23,268
55 - 59 ".....	38,900	2,627,500	24,732	14,168	44,200	3,421,388	25,928	18,272
60 - 64 ".....	31,462	2,484,766	18,440	13,022	34,326	3,012,110	18,514	15,812
65 - 69 ".....	28,886	3,394,474	14,942	13,944	29,814	3,820,282	13,740	16,074
70 or over.....	16,704	2,245,920	7,606	9,098	17,532	2,359,278	7,012	10,520
Unspecified.....	8,126	452,950	5,678	2,448	10,134	630,752	7,278	2,856
Totals, All Ages.....	770,684	44,660,188	528,996	241,688	917,736	62,525,086	572,660	345,076

27.—Benefit Years Terminated during 1954 and Benefit Days Paid on those Benefit Years, by Industrial Group and Age of Claimant

Industrial Group	Benefit Years Terminated			Benefit Days Paid		
	Under 25 Years of Age	25-59 Years of Age	60 Years of Age or Over	Under 25 Years of Age	25-59 Years of Age	60 Years of Age or Over
	No.	No.	No.	No.	No.	No.
Agriculture.....	1,074	2,928	356	61,782	208,974	31,208
Forestry and Logging.....	21,486	61,986	5,668	1,196,284	3,798,930	447,136
Fishing, Hunting and Trapping.....	104	704	76	5,524	47,614	6,614
Mining, Quarrying and Oil Wells.....	5,016	25,466	3,362	226,202	1,392,510	336,390
Metal mining.....	2,032	8,196	790	110,954	564,610	107,920
Fuels.....	2,220	14,220	2,136	75,264	627,938	187,652
Non-metal mining.....	300	1,364	178	17,228	86,112	18,512
Quarrying, clay and sand pits.....	288	1,272	212	15,376	89,236	18,300
Prospecting.....	176	414	46	7,380	24,614	4,006
Manufacturing.....	85,658	225,358	25,496	4,807,470	14,380,640	3,010,090
Food and beverages.....	10,892	23,578	3,378	577,888	1,505,822	380,266
Tobacco and tobacco products.....	546	1,376	146	40,320	111,916	19,324
Rubber products.....	1,922	4,412	260	102,316	231,062	34,408
Leather products.....	4,264	7,664	1,056	215,890	454,964	98,212
Textile products (except clothing).....	10,118	22,266	1,852	605,658	1,409,498	214,606
Clothing (textile and fur).....	13,516	33,576	3,192	707,410	2,092,430	305,958
Wood products.....	9,218	27,380	4,710	494,774	1,682,414	475,218
Paper products.....	3,388	8,796	1,114	188,102	545,264	184,894
Printing, publishing and allied industries.....	1,882	3,192	676	95,976	220,712	104,298
Iron and steel products.....	8,732	33,598	3,778	547,902	2,235,656	485,366
Transportation equipment.....	10,528	35,898	3,036	627,474	2,232,356	356,390
Non-ferrous metal products.....	1,670	3,940	388	102,584	310,896	66,984
Electrical apparatus and supplies.....	3,448	7,240	446	198,060	479,950	80,446
Non-metallic mineral products.....	2,050	4,582	534	113,642	298,988	66,688
Products of petroleum and coal.....	150	458	100	7,372	32,794	21,912
Chemical products.....	1,328	3,678	428	78,192	279,922	70,208
Miscellaneous manufacturing industries.....	2,006	3,724	402	103,910	255,996	44,912
Construction.....	28,058	124,608	15,000	1,641,048	8,466,794	1,307,824
General contractors.....	20,546	101,210	12,570	1,228,048	7,002,554	1,092,246
Special trade contractors (subcontractors).....	7,512	23,398	2,430	413,000	1,464,240	215,578

27.—Benefit Years Terminated during 1954 and Benefit Days Paid on those Benefit Years, by Industrial Group and Age of Claimant—concluded

Industrial Group	Benefit Years Terminated			Benefit Days Paid		
	Under 25 Years of Age	25-59 Years of Age	60 Years of Age or Over	Under 25 Years of Age	25-59 Years of Age	60 Years of Age or Over
	No.	No.	No.	No.	No.	No.
Transportation, Storage and Communication	17,484	48,888	7,664	1,054,002	3,434,728	1,284,560
Transportation.....	15,524	45,202	7,244	938,750	3,132,876	1,223,058
Storage.....	530	1,624	266	30,754	118,906	36,708
Communication.....	1,430	2,062	154	84,498	182,946	24,794
Public Utility Operation	1,182	3,524	692	66,330	270,636	107,798
Trade	25,880	53,986	7,244	1,407,424	3,887,010	922,232
Wholesale.....	6,032	15,542	2,018	312,298	1,068,928	268,868
Retail.....	19,848	38,444	5,226	1,095,126	2,818,082	653,364
Finance, Insurance and Real Estate	2,720	4,460	1,022	131,656	346,752	149,934
Service	19,370	62,308	14,778	1,078,194	4,536,068	1,558,178
Community or public.....	1,136	5,032	1,432	55,250	366,956	159,382
Government.....	5,570	21,192	6,482	355,518	1,566,376	645,274
Recreation.....	1,166	3,176	1,108	62,364	230,330	113,210
Business.....	1,004	3,186	886	52,170	210,430	96,730
Personal.....	10,494	29,722	4,870	552,892	2,161,976	543,582
Unspecified	896	2,786	314	53,898	202,194	29,706
Totals, All Industries¹	208,928	617,002	81,672	11,729,814	40,972,850	9,191,670

¹ The total number of benefit years terminated was actually 917,736 because for 10,134 benefit years the age of claimant was unspecified; 630,752 benefit days were paid on these 10,134 benefit years, so that the total number of benefit days paid on benefit years terminated was 62,525,086.

28.—Benefit Years Terminated during 1953 and 1954 and Benefit Days Paid on those Benefit Years by Occupation Group

Occupation Group	1953		1954	
	Benefit Years Terminated	Benefit Days Paid	Benefit Years Terminated	Benefit Days Paid
	No.	No.	No.	No.
Managerial	5,886	430,668	6,672	536,662
Professional.....	5,030	298,036	6,392	423,722
Clerical.....	50,906	3,217,318	59,682	4,338,714
Transportation.....	68,822	4,157,250	83,354	5,745,506
Communication.....	4,802	343,196	5,796	454,550
Commercial.....	37,292	2,305,376	43,708	3,028,418
Financial.....	352	21,000	414	24,542
Service (other than professional).....	62,414	4,415,132	73,202	5,811,286
Personal (other than domestic).....	26,854	1,863,282	32,754	2,551,972
Domestic.....	24,888	1,658,876	28,280	2,089,568
Protective.....	9,330	808,772	10,692	1,064,670
Other.....	1,342	84,202	1,496	105,076
Agricultural	3,486	214,806	4,378	315,710
Fishing, trapping and logging.....	65,604	3,492,056	64,520	3,923,422
Fishing and trapping.....	932	66,552	948	60,954
Logging (including forestry).....	64,622	3,425,504	63,572	3,862,468
Mining.....	18,482	958,778	27,080	1,528,868
Manufacturing and mechanical.....	162,972	8,064,692	209,064	13,411,974
Electric light and power production and stationary engineers.....	12,854	830,910	14,610	1,104,038
Construction.....	88,980	5,235,060	106,620	7,244,706
Labourers.....	173,704	10,125,730	200,940	13,864,960
Unspecified.....	9,098	550,180	11,304	768,008
Totals, All Occupations	770,684	44,660,188	917,736	62,525,086

Employment Service.—The Unemployment Insurance Commission operates a free employment service under authority of the Unemployment Insurance Act 1940. The public employment offices, which had functioned under a joint federal-provincial arrangement for more than two decades, were taken over by the Commission on Aug. 1, 1941 and added offices were established in all provinces except Quebec. The Commission established its own offices in Quebec and the provincial government thereupon reduced the number of its offices.

29.—Applications for Employment, Positions Offered and Placements Effectuated by Employment Offices 1945-54 and by Province 1952-54

Note.—Figures by provinces from 1920-51 are given in the corresponding table of previous Year Books beginning with the 1926 edition. Totals for 1920-37 are given in the 1938 edition, p. 766; for 1938 in the 1939 edition, p. 802; and for 1939-44 in the 1951 edition, p. 686.

Year and Province		Applications Registered		Vacancies Notified		Placements Effectuated	
		Males	Females	Males	Females	Males	Females
		No.	No.	No.	No.	No.	No.
1945.....		1,855,036	661,948	1,733,362	687,886	1,095,641	397,940
1946.....		1,464,533	494,164	1,335,200	567,331	824,052	235,360
1947.....		1,189,646	430,577	1,060,134	476,643	549,376	220,473
1948.....		1,197,295	459,332	794,207	391,385	497,916	214,424
1949.....		1,295,690	494,956	652,853	373,837	464,363	219,816
1950.....		1,500,763	575,813	800,611	363,711	559,882	230,920
1951.....		1,541,208	623,467	943,773	387,795	655,933	262,305
1952.....		1,781,689	664,485	865,152	444,926	677,777 ^r	302,730 ^r
1953.....		1,980,918	754,358	822,852	466,310	661,167	332,239
1954.....		2,129,110	840,877	665,029	423,291	545,452	316,136
Newfoundland.....	1952	33,341	2,282	6,419	586	5,203 ^r	410 ^r
	1953	39,421	2,669	2,551	628	2,980	433
	1954	42,179	2,621	4,218	788	2,963	375
Prince Edward Island.....	1952	8,780	4,298	4,942	3,612	4,073 ^r	2,749 ^r
	1953	9,989	5,003	4,561	4,296	4,101	3,331
	1954	9,848	4,601	3,987	3,753	3,296	2,721
Nova Scotia.....	1952	75,374	20,738	29,472	13,548	27,137 ^r	9,862 ^r
	1953	81,892	23,114	25,016	13,914	24,050	10,984
	1954	77,882	22,196	20,526	10,943	17,755	8,410
New Brunswick.....	1952	79,552	20,223	34,145	10,794	27,303 ^r	7,903 ^r
	1953	87,215	22,333	29,450	10,356	23,269	7,765
	1954	89,348	20,991	30,701	8,716	25,940	6,433
Quebec.....	1952	509,560	161,995	232,625	114,688	179,286 ^r	72,458 ^r
	1953	574,921	195,365	223,266	121,627	174,902	84,972
	1954	579,429	210,770	171,987	104,845	134,556	74,838
Ontario.....	1952	560,228	240,034	296,160	154,032	233,234 ^r	105,670 ^r
	1953	648,590	266,441	303,191	164,076	245,080	114,088
	1954	752,356	301,452	231,994	134,868	191,771	97,949
Manitoba.....	1952	91,090	47,685	47,856	33,158	34,740 ^r	22,318 ^r
	1953	99,629	59,396	45,820	38,480	33,418	27,958
	1954	101,067	64,270	34,262	35,358	27,570	27,624
Saskatchewan.....	1952	56,703	23,744	41,467	18,653	29,906 ^r	11,660 ^r
	1953	62,808	24,610	39,689	18,079	30,279	11,540
	1954	71,509	29,097	34,721	15,957	28,516	10,847
Alberta.....	1952	111,219	45,934	82,990	39,054	63,066 ^r	25,874 ^r
	1953	124,261	49,750	69,813	35,546	55,662	24,499
	1954	137,287	53,546	54,814	32,507	44,328	22,367
British Columbia.....	1952	255,842	97,552	89,076	56,801	73,829 ^r	43,826 ^r
	1953	252,192	105,677	79,495	59,308	67,426	46,669
	1954	268,205	131,333	77,819	75,556	68,757	64,572

Section 6.—Vocational Training*

The Federal Department of Labour, under the authorization of the Vocational Training Co-ordination Act 1942, co-operates with the provinces in promoting and developing vocational training in Canada by sharing with the provincial governments the costs of establishing and operating various types of schools and training programs designed to fit trainees for employment.

The federal-provincial program under which all classes and training projects are operated is known as 'Canadian Vocational Training'. In conducting this program, the Minister of Labour receives advice and co-operation from the Vocational Training Advisory Council which consists of representatives of provincial governments, employers, organized labour and other bodies concerned with vocational training in Canada. Problems regarding apprenticeship, including federal participation therein, are referred to the Apprenticeship Training Advisory Committee which reports to the Minister through the Council.

The established procedure is to have all training programs operated by or under the supervision of the appropriate provincial authority and to reimburse the provinces for provincial government expenditures in connection with such projects. Where classes or training programs are operated for Federal Government Departments, the Armed Forces, or other federal agencies, the provinces are reimbursed for the full costs. Otherwise they are reimbursed for one-half of such expenditures subject to the limitation of funds voted for such purpose by Parliament.

There are four federal-provincial agreements governing the nature and extent of the sharable expenditures for different types of training: the Vocational Schools' Assistance Agreement, the Apprenticeship Agreement, the Vocational Training Agreement, and the Vocational Correspondence Courses Agreement.

Assistance for Vocational Schools.—Ten year agreements for vocational school assistance were signed by nine provinces in 1945, by Newfoundland in 1950 and the Northwest Territories in 1954. These agreements expired on Mar. 31, 1955 but were renewed for a period of one year pending decision of the Government regarding future policy and procedure with respect to federal grants-in-aid. The original agreements provided a total of \$20,000,000 to be expended over the ten year period for operational expenses of vocational schools of less than university grade and \$10,000,000 for capital assistance in the building and equipping of such schools. Additional funds were provided for Newfoundland and the Northwest Territories. The new one year agreement provides \$2,070,000 for operational costs to be allotted to the provinces on the basis of a \$10,000 outright grant to each, the balance being divided in proportion to the population in the age group from 15 to 19 years inclusive.

Payments to the various provinces and territories during the fiscal year ended Mar. 31, 1955 were as follows:—

Province	Annual Allotment ¹	Province	Annual Allotment ¹
	\$		\$
Newfoundland.....	66,600	Saskatchewan.....	165,237
Prince Edward Island.....	25,500	Alberta.....	147,600
Nova Scotia.....	121,003	British Columbia.....	140,700
New Brunswick.....	89,800	Northwest Territories.....	3,366
Quebec.....	638,100		
Ontario.....	597,500	TOTALS.....	2,029,522
Manitoba.....	34,116		

¹ Provinces other than Newfoundland and the Northwest Territories used their full capital allotment.

Apprenticeship Training.—Apprenticeship agreements covering a ten year period commencing Apr. 1, 1944 were signed by all provinces except Quebec and Prince Edward Island. Newfoundland signed an agreement in 1950 for the remainder of the ten year

* More detailed information is given in the annual report, *Canadian Vocational Training Branch*, published as a supplement to the annual report of the Department of Labour.

period. These agreements have been renewed for a further ten year period expiring on Mar. 31, 1964. They provide for sharing, on a fifty-fifty basis, in provincial government expenditures on the training of indentured apprentices who are registered with the provincial Departments of Labour under the provisions of the apprenticeship Act of each province. Training is provided on the job and in specially organized classes which may be conducted on a full time basis during the day or as part time evening or day classes. As of Mar. 31, 1955 a total of 14,023 apprentices was registered. Federal Government expenditures for this purpose for the year ended Mar. 31, 1955 were as follows:—

<i>Province</i>	<i>Payment</i>	<i>Province</i>	<i>Payment</i>
	\$		\$
Newfoundland.....	18,281	Alberta.....	207,937
Nova Scotia.....	54,789	British Columbia.....	55,252
New Brunswick.....	44,427	Northwest Territories.....	799
Ontario.....	312,747		
Manitoba.....	67,902	TOTALS.....	839,014
Saskatchewan.....	76,880		

Vocational Training Courses.—Agreements which provide for sharing with the provinces the costs of various types of training projects, other than those regularly conducted in schools assisted under the provisions of the Vocational Schools' Assistance Agreement, have been in operation since 1939. These agreements were consolidated in 1948 and expired in 1954; they have been renewed for a further five year period, except that the provision for sharing the costs of financial assistance to university students and nurses in training is subject to renewal on a year to year basis. The conditions governing financial assistance to the various types of projects are set forth in schedules attached to and forming part of each agreement. These schedules cover special training classes for members of the Armed Forces, the costs of which are borne entirely by the federal treasury; classes for new employees in defence industries for which the Federal Government pays 75 p.c. of the costs; training programs on an individual or class basis for veterans of the Armed Forces for which the provinces are reimbursed 100 p.c.; and special training programs for employees of Federal Government Departments, the full cost of which is also borne by the federal treasury. In addition the costs of the following types of classes are shared equally between the Federal and Provincial Governments: training for unemployed persons who require such training to fit them for available employment; rehabilitation training for disabled persons; short term classes for young people in rural communities; and training programs for supervisors in industrial establishments. Total expenditure from the federal treasury under these vocational training agreements for the year ended Mar. 31, 1955 was \$869,759.

Correspondence Courses.—Under the provisions of the vocational correspondence courses agreement, the Federal Government shares equally with the Provincial Governments in the costs of printing and preparing correspondence courses. These courses, of which there are approximately 100, must be approved by a committee consisting of the provincial officials in charge of correspondence instruction. They are made available to students anywhere in Canada on the same terms as for students in the province where the course has been prepared. The sum of \$125,000 was appropriated in 1950 to provide for such expenditures during a five year period. Payments are made to the provinces only on completion of approved courses and the term of the agreements has been extended for another fiscal year to take care of incompleted courses and needed revisions.

Section 7.—Industrial Accidents and Workmen's Compensation

Subsection 1.—Fatal Industrial Accidents

Statistics of fatal industrial accidents have been compiled by the Federal Department of Labour since 1903. The data are now obtained from provincial Workmen's Compensation Boards, the Board of Transport Commissioners and other government authorities, departmental correspondents and from press reports.

30.—Fatal Industrial Accidents 1952-54

Industry	Numbers			Percentages of Total		
	1952	1953	1954	1952	1953	1954
Agriculture.....	102	119	104	7.0	8.8	7.8
Logging.....	177	169	172	12.2	12.4	12.9
Fishing and trapping.....	21	36	33	1.5	2.7	2.5
Mining, non-ferrous smelting and quarrying.....	212	188	209	14.6	14.0	15.7
Manufacturing.....	236	250	212	16.3	18.1	15.9
Construction.....	247	229	239	17.0	16.9	18.0
Electric light and power.....	43	35	26	3.0	2.5	2.0
Transportation and public utilities.....	254	181	198	17.5	13.4	15.0
Trade.....	48	61	55	3.3	4.5	4.1
Finance.....	1	4	3	0.1	0.3	0.2
Service.....	108	87	79	7.5	6.4	5.9
Totals.....	1,449	1,359	1,330	100.0	100.0	100.0

Causes of Industrial Fatalities.—During 1954, 346 of the 1,330 fatal accidents to industrial workers were caused by moving objects, 65 by falling trees and branches, 41 by falling or flying objects in mines and quarries, 37 by automobiles and trucks, and 33 by landslides and cave-ins. Collisions, derailments, wrecks, etc., were responsible for 326 industrial fatalities. Automobiles and trucks were involved in 145 of these accidents, watercraft in 70, tractors in 54, aircraft in 28, and railways in 24. Falls and slips were responsible for 255 industrial deaths, of which 243 were falls to different levels including 76 deaths caused by falls into rivers, lakes, seas or harbours, 34 by falls from scaffolds and stagings, 28 by falls into shafts, pits, excavations, etc., 23 by falls from buildings, roofs and towers and 15 by falls from ladders and stairs. There were 93 deaths caused by exposure to dust and gases and 84 deaths caused by workers being caught in, on or between parts of machinery or other agencies. Conflagrations, temperature extremes and explosions caused 73 industrial fatalities, 71 were caused by overexertion and industrial diseases and 64 by contact with electric current.

Subsection 2.—Workmen's Compensation*

In all provinces legislation is in force providing for compensation for injury to a workman by accident arising out of and in the course of employment, or by a specified industrial disease, except where the workman is disabled for fewer than a stated number of days.

* More detailed information is given in the Department of Labour publication, *Workmen's Compensation in Canada, A Comparison of Provincial Laws*

The Acts of all provinces provide for a compulsory system of collective liability on the part of employers. To ensure payment of compensation each Act provides for an accident fund, administered by the province, to which employers are required to contribute at a rate determined by the Workmen's Compensation Board in accordance with the hazards of the industry. A workman to whom these provisions apply has no right of action against his employer for injury from an accident during employment. In Ontario and Quebec public authorities, railway and shipping companies, and telephone and telegraph companies are individually liable for compensation as determined by the Board and pay a proportion of the expenses of administration. A federal Act provides for compensation for accidents to Federal Government employees according to the conditions laid down by the Act of the province in which the employee is usually employed. Seamen who are not under a provincial Workmen's Compensation Act are entitled to compensation under the Merchant Seamen Compensation Act 1946.

In all provinces free medical aid is given to workmen during disability. Compensation is payable in all provinces for anthrax and for poisoning from arsenic, lead, mercury and phosphorus and silicosis is compensated under certain conditions. Other diseases compensated vary according to the industries of the provinces.

Scope of the Workmen's Compensation Acts.—The Acts vary in scope but in general they cover construction, mining, manufacturing, lumbering, transportation and communications and the operation of public utilities. Undertakings in which not more than a stated number of workmen are usually employed may be excluded, except in Alberta and British Columbia.

Benefits.—Under each Act, except those of Saskatchewan and Alberta, if a workman is disabled from earning full wages for fewer than a stated number of days, usually called the 'waiting period', he cannot recover compensation for the period of his disability or, in Manitoba and British Columbia, for the first three days of his disability. Where the disability continues beyond the required number of days compensation is payable from the date of the accident. Medical aid is always paid from the date of the accident. In Saskatchewan and Alberta the waiting period is one day, that is, compensation is not payable when the workman is off work only for the day on which the accident occurs. When he is disabled for a longer time compensation begins from the day following the accident. Compensation in fatal accidents is paid as follows:—

Burial expenses—\$250 in Saskatchewan and British Columbia and \$200 in Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba and Alberta. In seven provinces a further sum is allowed for transporting the workman's body.

To a widow or invalid widower, or to a foster mother as long as the children are under the age limit—a monthly payment of \$75 in Ontario, Saskatchewan and British Columbia, \$55 in Quebec and \$50 in Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba and Alberta. In addition a lump sum of \$200 is paid in Ontario and Quebec and of \$100 in all other provinces.

For each child in the care of a parent or foster mother receiving compensation—a monthly payment of \$25 in Ontario, Saskatchewan, Alberta and British Columbia, \$20 in Nova Scotia, Quebec and Manitoba, \$15 in Prince Edward Island and \$12 in Newfoundland and New Brunswick with a maximum of \$110 to any one family in Prince Edward Island and \$130 in Nova Scotia.

For each orphan child—a monthly payment of \$35 in Ontario and Saskatchewan, \$30 in Nova Scotia, Quebec, Manitoba and British Columbia, \$25 in Prince Edward Island, New Brunswick and Alberta (in Alberta a further amount, not exceeding \$10 a month, may be given at the discretion of the Board) and \$20 in Newfoundland, with a maximum of \$100 a month to any one family in Prince Edward Island and of \$120 in Nova Scotia.

Invalids excepted, payments to children are not continued beyond the age of 16 years in seven of the provinces but the Board has discretion to pay compensation to the age of 18 years if it is considered desirable to continue a child's education. In Quebec the age limit is 18 years and in New Brunswick and British Columbia compensation is paid to the age of 18 years if a child is regularly attending school. In Nova Scotia, New Brunswick, Ontario, Manitoba, Saskatchewan and British Columbia payments to invalid children are continued until recovery, but the other provinces make payments only for the length of time the Board considers that the workman would have contributed to their support.

Where the only dependants are persons other than consort or children, all the Acts provide that compensation is to be a reasonable sum proportionate to the pecuniary loss but the total monthly amount to be paid to all such dependants is limited to \$100 in Ontario, \$85 in Alberta, \$75 in British Columbia and \$60 in Prince Edward Island, Nova Scotia and Manitoba. In British Columbia, if a workman leaves dependent parents as well as a widow or orphans, the maximum payable to a parent or parents is \$75 a month. Compensation to dependants, other than consort or children, is continued only for such time as the Board considers that the workman would have contributed to their support.

Except in Alberta and British Columbia, each Act places a maximum on the total amount of benefits payable to all dependants if the workman dies. In Newfoundland and Nova Scotia the maximum is two-thirds of the workman's earnings, in New Brunswick, Quebec and Manitoba 70 p.c., and in Prince Edward Island 75 p.c. In Ontario and Saskatchewan the average earnings are the maximum amount payable.

Irrespective of the workman's earnings however compensation may not fall below certain minimum monthly amounts. The minimum payable to a consort and one child in Quebec is \$75 a month or \$95 if there is more than one child; in Manitoba the minimum is \$70 if there is a consort and one child and \$90 if there is more than one child; in Saskatchewan the minimum is \$100 a month to a consort and child and \$115 to a consort and two children plus \$10 a month for each additional child. In Newfoundland a widow must receive at least \$50 a month with a further payment of \$12 for each child under 16 years of age unless the total exceeds \$100. In Ontario the minimum payable to a widow is \$75 a month with a further payment of \$25 for each child up to but not exceeding \$150 a month.

Compensation for total disablement in Newfoundland and Nova Scotia is a periodical payment for the duration of the disability equal to 66 $\frac{2}{3}$ p.c. of average earnings; in New Brunswick, Quebec and Manitoba the rate is 70 p.c. of earnings; and 75 p.c. in Prince Edward Island, Ontario, Saskatchewan, Alberta and British Columbia. Except in New Brunswick the Acts fix minimum sums to be paid for a permanent total disability. The minimum is \$15 a week in Prince Edward Island, Quebec and Manitoba and \$25 in Saskatchewan, Alberta and British Columbia. In Newfoundland the minimum is \$65 a month, in Nova Scotia \$85 a month and in Ontario \$100 a month. If however average earnings are less than these minimum amounts, the amount of the earnings is paid in all provinces except Nova Scotia and Saskatchewan. For partial disablement compensation is either a percentage of the difference in earnings before and after the accident, the percentage rate being the same as in total disablement, or the amount is determined by the Board according to the diminution of earning capacity. In all provinces except British Columbia, if the impairment of earning capacity is 10 p.c. or less, a lump sum may be given.

The average earnings on which compensation is based are limited to \$4,000 a year in Quebec, Ontario, Saskatchewan and British Columbia, \$3,000 in Newfoundland, Nova Scotia, New Brunswick, Manitoba and Alberta, and \$2,700 in Prince Edward Island. If the workman's earnings at the time of an accident are not considered a proper basis for compensation the Board may use as a basis the average earnings of another person in the same grade of work. Compensation paid workmen under 21 years of age may be raised later if it appears that their earning power would have increased had the injury not occurred.

Table 31 gives the number of industrial accidents reported by each of the provinces and the amount of compensation paid by the Workmen's Compensation Boards in the years 1951 to 1954.

31.—Industrial Accidents Reported and Compensation Paid by Workmen's Compensation Boards 1951-54

Year and Province	Industrial Accidents Reported					Compensation Paid ²
	Medical Aid Only ¹	Temporary Disability	Permanent Disability	Fatal	Total	
	No.	No.	No.	No.	No.	\$
1951						
Newfoundland ³	3,425	2,725	67	11	6,228	294,597
Prince Edward Island.....	411	439	10	—	860	68,249
Nova Scotia.....	9,545	7,503	482	43	17,573	2,894,044
New Brunswick.....	5,710	9,234	206	27	15,177	1,446,580
Quebec.....	129,486	45,010	1,775	207	95,930	10,771,507 ⁴
Ontario.....	11,249	5,577	349	292	176,563	23,602,661 ⁴
Manitoba.....	6,711	6,812	135	37	17,212	1,748,161
Saskatchewan.....	20,312	14,754	636	18	35,804	1,802,224 ⁵
Alberta.....	40,268	26,023	1,513	102	67,988	4,112,149
British Columbia.....				184		12,337,916
Totals.....	...	...	...	921	447,011	59,078,088
1952						
Newfoundland.....	5,466	4,065	125	19	9,675	707,391
Prince Edward Island.....	424	446	11	1	882	68,674
Nova Scotia.....	10,236	6,886	539	63	17,724	3,037,854
New Brunswick.....	5,571	8,463	205	28	14,267	1,447,602
Quebec.....	137,938	54,802	2,157	312	97,177	12,399,980 ⁴
Ontario.....	11,351	5,522	337	309	195,206	27,285,862 ⁴
Manitoba.....	7,491	6,939	112	36	17,246	1,889,415
Saskatchewan.....	23,803	14,895	730	37	39,520	2,096,720 ⁵
Alberta.....	42,855	25,551	1,391	92	70,037	4,875,011
British Columbia.....				240		14,333,874
Totals.....	...	...	...	1,137	476,313	68,142,383
1953						
Newfoundland.....	5,630	3,972	114	16	9,732	776,322
Prince Edward Island.....	479	516	10	—	1,005	87,548
Nova Scotia.....	9,732	6,565	519	39	16,855	3,109,587
New Brunswick.....	5,328	7,353	227	20	12,928	1,466,152
Quebec.....	143,467	55,992	2,198	191	93,306	12,961,046 ⁴
Ontario.....	11,759	5,168	382	319	201,976	29,712,305 ⁴
Manitoba.....	8,547	7,466	162	37	17,346	2,018,755
Saskatchewan.....	23,522	17,570	749	43	39,520	2,390,851 ⁵
Alberta.....	43,569	23,909	1,253	124	41,965	5,650,373
British Columbia.....				207	68,938	15,492,588
Totals.....	...	...	...	996	480,269	73,665,527
1954						
Newfoundland.....	4,889	3,396	36	28	8,349	866,193
Prince Edward Island.....	506	473	1	3	983	101,127
Nova Scotia.....	8,707	7,222	110	48	16,087	3,367,136
New Brunswick.....	..	..	..	23	14,214	1,358,596
Quebec.....	135,670	55,648	1,994	253	87,911	13,144,579 ⁴
Ontario.....	11,454	5,034	372	276	193,588	30,922,936 ⁴
Manitoba.....	9,399	8,677	237	51	16,011	2,178,874
Saskatchewan.....	22,922	16,679	749	50	38,363	2,913,167 ⁵
Alberta.....	42,488	23,230	1,175	102	40,452	5,976,276
British Columbia.....				192	67,085	16,136,921
Totals.....	...	...	...	1,026	463,043	76,965,895

¹ Accidents requiring medical treatment but not causing disability for a sufficient period to qualify for compensation; the period varies in the several provinces.

² This includes, except where noted otherwise, payments to compensate for lost earnings, medical aid payments, cost of rehabilitation and hospitalization (not including capital expenditures), pensions paid (not total pensions awarded) for temporary and permanent disabilities.

³ The Workmen's Compensation Board of Newfoundland commenced operations on Apr. 1, 1951.

⁴ Does not include payments by employers who make direct compensation to their employees; such employers come under Schedule II of the Ontario and Quebec Workmen's Compensation Acts.

⁵ Not including hospitalization costs.

Section 8.—Workers Affected by Collective Agreements

Statistics on the number of workers affected by collective agreements in Canada are compiled by the Department of Labour. Table 32 gives figures for the principal industrial groups. The second column of the table shows the number of workers affected by agreements extended under the Quebec Collective Agreement Act (*see* Sect. 1, ss. 2).

Any duplication of the numbers of workers covered by agreements under this Act and by other agreements is eliminated in the third column. A more detailed table and studies of agreements in certain industries are available from the Department of Labour, Ottawa.

32.—Workers Affected by Collective Agreements by Industry 1953

Industrial Group	Agreements (other than those in Column 2)	Agreements Extended under Collective Agreement Act, Quebec	Total ¹
	No.	No.	No.
Agriculture	34	—	34
Forestry	58,372	—	58,372
Fishing	7,800	—	7,800
Mining (including milling), Quarrying and Oil Wells	61,842	40	61,882
Metal mining.....	32,876	—	32,876
Fuels.....	19,765	—	19,765
Non-metal mining.....	7,237	40	7,277
Quarrying, clay and sand pits.....	1,964	—	1,964
Manufacturing	666,129	90,252	713,766
Food and beverages.....	67,333	1,731	68,804
Tobacco products.....	5,908	—	5,908
Rubber products.....	15,369	—	15,369
Leather products.....	12,135	14,452	20,969
Textile products (except clothing).....	37,731	1,657	38,843
Clothing (textile and fur).....	53,832	42,386	71,328
Wood products.....	46,437	4,693	49,689
Paper products.....	59,878	3,055	61,391
Printing, publishing and allied industries.....	21,610	6,862	23,658
Iron and steel products.....	109,893	3,336	112,456
Transportation equipment.....	101,976	9,932	110,256
Non-ferrous metal products.....	33,897	351	34,248
Electrical apparatus and supplies.....	48,131	—	48,131
Non-metallic mineral products.....	17,579	1,172	18,206
Products of petroleum and coal.....	9,122	—	9,122
Chemical products.....	18,819	625	18,819
Miscellaneous manufacturing industries.....	6,479	—	6,479
Construction	97,922	98,367	192,250
Transportation, Storage and Communication	308,203	8,406	310,289
Transportation.....	280,976	8,406	263,062
Storage.....	4,765	—	4,765
Communication.....	42,462	—	42,462
Public Utility Operations	28,328	—	28,328
Trade	45,186	12,772	54,441
Finance, Insurance and Real Estate	1,474	—	1,474
Service	100,146	10,692	109,687
Totals	1,375,436	220,529	1,538,323

¹ Duplications in columns 1 and 2 eliminated.

Section 9.—Organized Labour in Canada*

At the beginning of 1955 there were 1,268,207 labour union members in Canada, practically no change from 1954. The individual unions are listed in Table 35 showing their memberships as at Jan. 1, 1955. At that time the majority of these unions were affiliated with a central labour congress, the three largest of which were the Trades and Labor Congress of Canada, the Canadian Congress of Labour and the Canadian and Catholic Confederation of Labour. These organizations are discussed briefly in the 1955 Year Book, pp. 818-819.

At a labour convention held in Toronto, Apr. 23-27, 1956 the union of the Trades and Labour Congress of Canada and the Canadian Congress of Labour was sealed, effective May 1, 1956. The product of this merger is the Canadian Labour Congress which brings into one organization more than 1,000,000 union members, while guaranteeing the existing jurisdictions and established bargaining relationships of all affiliates. The preamble to the CLC Constitution, which sets forth its aspirations, reads as follows:—

“Dedicated to the proposition that Canadian workers as free citizens are entitled to secure and protect their mutual welfare and that of their families by all legitimate means, this autonomous Canadian Labour centre is brought in being.

“Inherent in this proposition is the attainment of its economic, social and legislative objectives through the organization of Canadian workers in free trade unions, the promotion and advancement of their interests in all fields of common endeavour by the utilization of their collective strength, abilities and resources.

“Founded to contribute to the realization of the legitimate aspirations of those who toil for a living, this organization will not deviate from the pursuit of the cause of peace, freedom and security for all peoples.

“It will at all times hold true to the high levels and principles of social justice on which the Labour Movement was founded.

“Unalterably opposed to corruption and totalitarian ideologies in all forms, it will utilize every resource at its command to combat these evils wherever they may be found. It will seek to eliminate tyranny, oppression, exploitation, hunger and fear, as well as discrimination on the basis of race, colour, creed or national origin.

“With a keen appreciation of the tremendous responsibilities which it has assumed, this organization accepts the challenge of the future to foster and defend the principles of democracy in the economic, social and political life of the nation.”

The Constitution of the Congress provides for the establishment of an Executive Committee consisting of the President, the Executive Vice-President and the Secretary Treasurer, an Executive Council comprising the three principal officers and 13 Vice-Presidents, and a General Board which includes the Council plus one principal Canadian officer of each affiliated organization. The biennial convention is the policy making body of the Congress. The Executive Council, which is to meet at least three times a year, officiates between conventions and the General Board functions in a consultative and advisory capacity.

The Executive Council was empowered at the convention to negotiate the terms of affiliation of the Canadian and Catholic Confederation of Labour, the One Big Union and the Canadian membership of the United Mine Workers of America.

* Information concerning unions is published in the Department of Labour annual publication, *Labour Organization in Canada*.

33.—Membership of Labour Unions in Canada 1925-55

Year	Members	Year	Members	Year	Members
	No.		No.		No.
1925.....	271,064	1935.....	280,648	1945.....	711,117
1926.....	274,604	1936.....	322,746	1946.....	831,697
1927.....	290,282	1937.....	383,492	1947.....	912,124
1928.....	300,602	1938.....	381,645	1948.....	977,594
1929.....	319,476	1939.....	358,967	1949.....	1,005,639
1930.....	322,449	1940.....	362,223	1951 ¹	1,028,521
1931.....	310,544	1941.....	461,681	1952.....	1,146,121
1932.....	283,096	1942.....	578,380	1953.....	1,219,714
1933.....	285,720	1943.....	664,533	1954.....	1,267,911
1934.....	281,274	1944.....	724,188	1955.....	1,268,207

¹ Figures for 1949 and previous years are as at Dec. 31; figures from 1951 are as at Jan. 1.

34.—Union Membership and Local Branches in Canada as at Jan. 1, 1954 and 1955

Organization	Jan. 1, 1954		Jan. 1, 1955	
	Branches	Membership	Branches	Membership
	No.	No.	No.	No.
Trades and Labor Congress of Canada ¹	3,471	596,004	3,598	600,791
American Federation of Labor only.....	50	9,748	54	9,290
Canadian Congress of Labour ¹	1,424	360,782	1,532	361,271
Congress of Industrial Organizations only.....	10	2,430	9	2,500
Canadian and Catholic Confederation of Labour.....	454	100,312	445	99,801
International Railway Brotherhoods (Independent).....	385	40,922	365	40,307
Unaffiliated international, national, regional and local unions.....	631	157,713	670	154,247
Totals.....	6,425	1,267,911	6,673	1,268,207

¹ Amalgamated as at May 1, 1956; see text p. 780.

35.—Labour Unions Reporting 1,000 or more Members in Canada as at Jan. 1, 1954 and 1955

Organization	Reported or Estimated Membership	
	1954	1955
	No.	No.
International Unions		
Automobile, Aircraft and Agricultural Implement Workers of America, International Union, United (CIO-CCL).....	65,000	60,000
Bakery and Confectionery Workers' International Union of America (AFL-TLC).....	4,830	4,833
Barbers, Hairdressers, Cosmetologists and Proprietors' International Union of America, The Journeymen (AFL-TLC).....	1,586	1,714
Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers, International Brotherhood of (AFL-TLC).....	10,260	10,300
Bookbinders, International Brotherhood of (AFL-TLC).....	2,596	2,788
Brewery, Flour, Cereal, Soft Drink and Distillery Workers of America, International Union of United (CIO-CCL).....	4,200	4,500
Bricklayers, Masons and Plasterers' International Union of America (AFL-TLC).....	5,444	6,151
Bridge, Structural and Ornamental Iron Workers, International Association of (AFL-TLC).....	6,400	6,787

**35.—Labour Unions Reporting 1,000 or more Members in Canada as at
Jan. 1, 1954 and 1955—continued**

Organization	Reported or Estimated Membership	
	1954	1955
	No.	No.
International Unions—concluded		
Building Service Employees' International Union (AFL-TLC).....	4,539	5,038
Carpenters and Joiners of America, United Brotherhood of (AFL-TLC).....	54,947	54,709
Cement, Lime and Gypsum Workers' International Union, United (AFL-TLC).....	2,760	2,705
Chemical Workers of America, United Gas, Coke and (CIO).....	2,348	2,500
Chemical Workers' Union, International (AFL-TLC).....	11,500	12,500
Clothing Workers of America, Amalgamated (CIO-CCL).....	13,000	15,000
Commercial Telegraphers' Union, The (AFL-TLC).....	4,367	4,502
Communications Workers of America (CIO-CCL).....	2,425	2,700
Distillery, Rectifying, Wine and Allied Workers' International Union of America (AFL-TLC)	3,300	3,300
Electrical, Radio and Machine Workers, International Union of (CIO-CCL).....	10,000	15,000
Electrical, Radio and Machine Workers of America, United (Ind.).....	24,600	22,500
Electrical Workers, International Brotherhood of (AFL-TLC).....	22,000	23,000
Engineers, International Union of Operating (AFL).....	9,836	9,055
Fire Fighters, International Association of (AFL-TLC).....	6,800	7,325
Firemen and Oilers, International Brotherhood of (AFL-TLC).....	3,000	2,200
Fur and Leather Workers' Union of the United States and Canada, International (Ind.).....	7,500	4,000
Garment Workers of America, United (AFL-TLC).....	1,550	1,450
Garment Workers' Union, International Ladies' (AFL-TLC).....	14,534	13,736
Glass and Ceramic Workers of North America, United (CIO-CCL).....		1,820
Hatters, Cap and Millinery Workers' International Union, United (AFL-TLC).....	1,500	3,500
Hod Carriers, Building and Common Laborers' Union of America, International (AFL-TLC)	11,336	9,910
Hotel and Restaurant Employees' and Bartenders' International Union (AFL-TLC).....	12,001	11,768
Lithographers of America, Amalgamated (CIO-CCL).....	1,864	1,912
Locomotive Engineers, Brotherhood of (Ind.).....	8,025	8,149
Locomotive Firemen and Enginemen, Brotherhood of (Ind.).....	9,298	8,856
Longshoremen's Association, Independent, International (TLC).....	6,000	6,500
Longshoremen's and Warehousemen's Union, International (CCL).....	1,816	1,500
Machinists, International Association of (AFL-TLC).....	50,887	49,097
Maintenance of Way Employees, Brotherhood of (AFL-TLC).....	18,000	20,000
Meat Cutters and Butcher Workmen of North America, Amalgamated (AFL-TLC).....	1,100	1,450
Metal Workers' International Association, Sheet (AFL-TLC).....	4,464	4,810
Mine, Mill and Smelter Workers, International Union of (Ind.).....	30,000	32,000
Mine Workers of America, United (CCL).....	24,884	23,750
Molders' and Foundry Workers' Union of North America, International (AFL-TLC).....	7,000	6,800
Musicians of the United States and Canada, American Federation of (AFL-TLC).....	10,838	11,381
Newspaper Guild, American (CIO-CCL).....	967	1,144
Office Employees' International Union (AFL-TLC).....	2,618	2,671
Oil Workers' International Union (CIO-CCL).....	4,093	4,628
Packinghouse Workers of America, United (CIO-CCL).....	19,225	21,149
Painters, Decorators and Paperhangers of America, Brotherhood of (AFL-TLC).....	5,616	5,703
Paper Makers, International Brotherhood of (AFL-TLC).....	7,921	6,000
Plasterers' and Cement Masons' International Association of the United States and Canada, Operative (AFL-TLC).....	2,223	1,962
Plumbing and Pipe Fitting Industry of the United States and Canada, United Association of Journeymen and Apprentices of the (AFL-TLC).....	15,000	16,139
Printing Pressmen and Assistants' Union of North America, International (AFL-TLC).....	6,320	6,845
Pulp, Sulphite and Paper Mill Workers, International Brotherhood of (AFL-TLC).....	31,155	31,957
Railroad, Telegraphers, The Order of (AFL-TLC).....	9,588	9,583
Railroad Trainmen, Brotherhood of (Ind.).....	21,815	22,101
Railway and Motor Coach Employees of America, Amalgamated Assn. of Street, Electric (AFL-TLC).....	12,010	12,143
Railway and Steamship Clerks, Freight Handlers, Express and Station Employees, Brother- hood of (AFL-TLC).....	21,000	18,363
Railway Carmen of America, Brotherhood (AFL-TLC).....	27,730	26,356
Railway Conductors and Brakemen, Order of (Ind.).....	1,784	1,201
Retail Clerks' International Association (AFL-TLC).....	3,394	3,604
Retail, Wholesale and Department Store Union (CIO-CCL).....	15,000	15,000
Rubber, Cork, Linoleum and Plastic Workers of America, United (CIO-CCL).....	11,037	10,400
Seafarers' International Union of North America (AFL-TLC).....	8,000	8,400
Stage Employees and Moving Picture Machine Operators of the United States and Canada, International Alliance of Theatrical (AFL-TLC).....	1,574	1,779
Steelworkers of America, United (CIO-CCL).....	70,000	60,000
Teamsters, Chauffeurs, Warehousemen and Helpers of America, International Brotherhood of (AFL-TLC).....	23,867	22,812
Textile Workers of America, United (AFL-TLC).....	6,000	5,000
Textile Workers Union of America (CIO-CCL).....	18,500	16,750
Tobacco Workers' International Union (AFL-TLC).....	5,426	5,323
Typographical Union, International (AFL-TLC).....	6,170	6,471
Upholsterers' International Union of North America (AFL-TLC).....	2,322	1,959
Woodworkers of America, International (CIO-CCL).....	32,247	33,881

**35.—Labour Unions Reporting 1,000 or more Members in Canada as at
Jan. 1, 1954 and 1955—concluded**

Organization	Reported or Estimated Membership	
	1954	1955
	No.	No.
National Unions		
Association Ouvrière Canadienne, Inc. (Canadian Workers' Association, Inc.) (Ind.).....	2,208	2,296
Bas Façonné et Circulaire, Inc., Fédération Nationale des Employés du (National Federation of Full Fashioned and Circular Hosiery Workers, Inc.) (CTCC).....	1,800	1,500
Bâtiment et des Matériaux de Construction, Fédération Nationale Catholique des Métiers du (National Catholic Federation of Building and Construction Materials Trades) (CTCC).....	18,428	19,513
Bois Ouvré du Canada, Inc., Fédération Catholique des Travailleurs du (Catholic Federation of Wood Workers of Canada, Inc.) (CTCC).....	4,182	4,253
Chaussure du Canada, Inc., Fédération Nationale du Cuir et de la (National Federation of Leather and Shoe Workers of Canada, Inc.) (CTCC).....	3,900	3,800
Chimique, Fédération Nationale des Travailleurs de l'Industrie (National Federation of Chemical Workers) (CTCC).....	3,000	3,300
Civic Employees, Federation of (CCL).....	1,500	1,500
Civil Servants of Canada, Amalgamated (CCL).....	—	9,000
Civil Service Association of Alberta, The (TLC).....	5,500	6,045
Civil Service Association, The Saskatchewan (TLC).....	4,335	4,730
Commerce, Inc., Fédération Nationale Catholique des Employés du (National Catholic Federation of Commerce Employees, Inc.) (CTCC).....	3,400	3,600
Cultivateurs (Service Forestier), L'Union Catholique des (Catholic Union of Farmers, Forestry Service) (Ind.).....	6,400	7,900
Engineers of Canada, National Union of Operating (CCL).....	1,700	1,500
Fishermen and Allied Workers' Union, United (Ind.).....	7,119	6,845
Fishermen, Newfoundland Federation of (Ind.).....	7,181	4,828
Fishermen's Protective Union (Ind.).....	2,000	1,500
Fish Handlers' Union (Maritime Division), Canadian (TLC).....	950	1,100
Fruit and Vegetable Workers' Unions, Federation of (TLC).....	2,000	2,000
Government Employees' Association, British Columbia (TLC).....	9,038	9,175
Government Employees' Association, Newfoundland (TLC).....	1,350	1,200
Imprimerie du Canada Engr., Fédération des Métiers de l' (Federation of Printing Trades of Canada, Reg.) (CTCC).....	3,400	3,500
Labourers' Union, Newfoundland (Ind.).....	5,100	4,000
Letter Carriers, Federated Association of (TLC).....	2,560	4,058
Longshoremen's Protective Union (St. John's) (Ind.).....	2,000	2,000
Lumbermen's Association, Newfoundland (Ind.).....	7,000	6,500
Marine Engineers of Canada, Inc., National Association of (TLC).....	1,263	1,405
Marine Workers' Federation, Maritime (CCL).....	2,500	2,500
Merchant Service Guild, Inc., Canadian (TLC).....	1,851	2,006
Métallurgie, Fédération Nationale de la (National Metal Trades' Federation) (CTCC).....	15,426	13,250
Minière Inc., Fédération Nationale des Employés de l'Industrie (National Federation of Mining Industry Employees, Inc.) (CTCC).....	4,648	4,823
Municipales et Scolaires du Canada, Inc., Fédération Nationale des Employés des Corporations (National Federation of Employees of Municipal and School Corporations of Canada, Inc.) (CTCC).....	5,222	5,360
National Council of Canadian Labour (Ind.).....	6,547	4,985
One Big Union (Ind.).....	12,280	12,280
Postal Employees Association, Canadian (TLC).....	6,700	7,125
Public Employees, National Union of (TLC).....	—	18,000
Public Service Employees, National Union of (CCL).....	2,965	3,300
Pulpe et du Papier, Inc., Fédération Nationale des Travailleurs de la (National Federation of Pulp and Paper Workers, Inc.) (CTCC).....	12,100	12,300
Railway Employees and Other Transport Workers, Canadian Brotherhood of (CCL).....	32,778	32,707
Railway Mail Clerks' Federation, Canadian (TLC).....	—	1,143
Railwaymen, The Canadian Association of (Ind.).....	—	1,571
Services, Inc., Fédération Nationale Catholique des (National Catholic Federation of Services, Inc.) (CTCC).....	5,200	5,500
Shipyard General Workers' Federation of British Columbia (CCL).....	2,750	2,555
Teachers' Federation, British Columbia (TLC).....	7,297	7,500
Telephone Employees' Association, Canadian (Ind.).....	10,944	12,043
Telephone Workers of British Columbia, Federation of (Ind.).....	4,068	4,311
Textile, Inc., Fédération Nationale Catholique de (National Catholic Textile Federation, Inc.) (CTCC).....	8,649	7,440
Traffic Employees' Association (Ind.).....	9,811	10,138
Unemployment Insurance Commission Association, National (TLC).....	5,300	5,556
Vêtement, Inc., Fédération Nationale des Travailleurs de l'Industrie du (National Federation of Clothing Industry Workers, Inc.) (CTCC).....	4,036	5,600

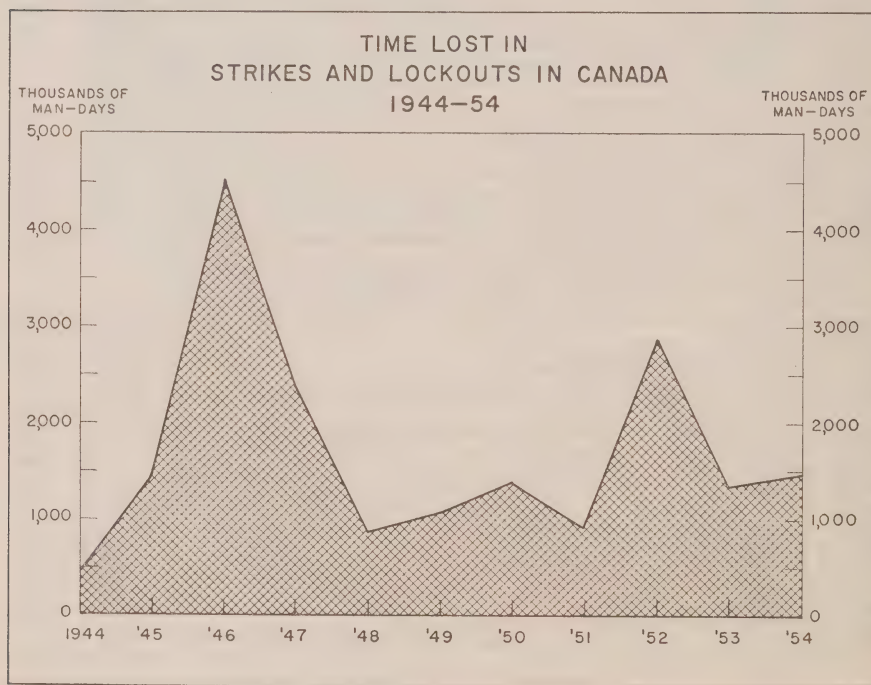
Section 10.—Strikes and Lockouts*

Major issues in strikes and lockouts during 1954 are shown for the first time under three main groups: (1) renewal of agreement; (2) during term of agreement; and (3) no agreement in effect. Although only about one-half of the total number of work stoppages came within the first category, such disputes were by far the most significant in terms of time loss. Disputes arising during negotiations for a new agreement accounted for 53 p.c. of the stoppages, involved 82 p.c. of the workers and caused 95 p.c. of the total idleness; those occurring during term of agreement caused 25 p.c. of the stoppages and involved 14 p.c. of the workers but caused only 2 p.c. of the time loss; and disputes in establishments where no collective agreement was in effect at the time of occurrence accounted for 22 p.c. of the stoppages, involved 4 p.c. of the workers and caused 3 p.c. of the total time loss.

As in the past eight years the demand for wage increases and related questions was the central issue in the majority of stoppages in 1954 and this demand, linked with questions involving union security, changes in hours and conditions of work, was a factor in 59 p.c. of the stoppages which involved 80 p.c. of the workers and caused 96 p.c. of the total idleness. The average for the period 1946-53 was 58 p.c. of the stoppages, 70 p.c. of the workers and 88 p.c. of the total time loss.

Settlement of 72 of the 174 disputes occurring in 1954 was brought about by direct negotiations; provincial conciliation effected settlement in 33 cases and civic mediation in one; two disputes were referred to labour boards and six to arbitration; 40 by return of workers and replacement, the latter being a factor in 12 cases; and 10 were indefinite in result.

* A complete review of strikes and lockouts during 1953 and 1954 is given in Department of Labour reports.



36.—Summary Statistics of Strikes and Lockouts 1945-54

Year	Strikes Beginning during the Year	Strikes and Lockouts in Existence in all Industries during the Year						
		Strikes and Lockouts	Employ- ers	Workers Involved	Time Loss			
					Man- Working Days	Average Days per Worker ¹	Average Days per Worker Involved	Estimate of Working Time ¹
	No.	No.	No.	No.	No.	No.	No.	p.c.
1945.....	196	197	418	96,068	1,457,420	0.49	15.17	0.17
1946.....	225	228	1,299	139,474	4,516,393	1.49	32.38	0.50
1947.....	232	236	1,173	104,120	2,397,340	0.77	23.02	0.26
1948.....	147	154	674	42,820	885,793	0.27	20.68	0.09
1949.....	132	137	542	51,437	1,063,667	0.32	20.68	0.11
1950.....	158	161	345	192,153	1,389,039	0.40	7.23	0.13
1951.....	257	259	646	102,870	901,739	0.24	8.77	0.08
1952.....	216	222	518	120,818	2,879,955	0.76	23.84	0.29
1953.....	167	174	384	55,988	1,324,715	0.35	23.66	0.13
1954.....	156	174	872	62,250	1,475,200	0.39	23.70	0.15

¹ Based on the number of non-agricultural wage and salary earners in Canada.

37.—Strikes and Lockouts by Industry 1953 and 1954

Industry	1953					1954				
	No. of Strikes and Lock- outs	Workers Involved		Time Loss		No. of Strikes and Lock- outs	Workers Involved		Time Loss	
		No.	Per- cent- age	Man- Working Days	Per- cent- age		No.	Per- cent- age	Man- Working Days	Per- cent- age
Agriculture.....	1	...	...	...	...	1	...	...	...	...
Logging.....	1	...	...	...	...	1	300	0.5	600	0.0
Fishing and Trapping.....	1	1,500	2.7	12,000	0.9	2	6,220	10.0	47,900	3.2
Mining².....	27	15,274	27.2	681,918	51.5	23	9,227	14.8	196,169	13.3
Coal.....	12	7,467	13.3	17,456	1.3	8	2,845	4.6	8,434	0.6
Other.....	15	7,807	13.9	664,462	50.2	15	6,382	10.2	187,735	12.7
Manufacturing.....	82	22,034	39.4	477,786	36.1	76	30,305	48.6	939,868	63.8
Vegetable foods, etc.....	2	730	1.3	19,260	1.5	3	1,051	1.8	55,665	3.9
Tobacco and liquors.....	1	...	...	...	...	2	184	0.3	10,034	0.7
Rubber and its products (in- cluding synthetic).....	5	2,320	4.1	7,670	0.6	1	434	0.7	500	0.0
Animal foods.....	2	66	0.1	2,185	0.2	1	244	0.4	1,950	0.1
Boots and shoes (leather).....	2	471	0.8	29,950	2.3	1	58	0.1	150	0.0
Fur, leather and other animal products.....	1	...	...	...	...	1	...	...	...	...
Textiles, clothing, etc.....	15	3,079	5.5	68,638	5.2	16	2,635	4.1	24,978	1.7
Pulp, paper and paper pro- ducts.....	2	501	0.9	34,405	2.5	3	676	1.1	3,405	0.2
Printing and publishing.....	1	12	...	...	...	1	25	0.0	100	0.0
Miscellaneous wood products.....	2	3,795	6.9	177,645	13.4	14	3,350	5.4	32,461	2.2
Metal products.....	36	9,403	16.8	122,391	9.2	29	19,305	30.9	748,970	50.8
Shipbuilding.....	1	...	...	...	...	1	99	0.2	395	0.0
Non-metallic minerals, chemicals, etc.....	6	1,669	3.0	15,642	1.2	2	636	1.0	8,910	0.6
Miscellaneous products.....	1	...	...	...	...	2	1,608	2.6	52,350	3.6
Construction.....	22	4,844	8.7	36,270	2.7	31	12,892	20.6	292,753	13.8
Buildings and structures.....	19	4,520	8.1	35,928	2.7	29	12,693	20.4	202,303	13.8
Railway.....	1	...	...	...	...	1	...	...	...	...
Bridge ³	1	...	...	...	...	1	...	...	...	...
Highway.....	1	...	...	...	...	1	...	...	...	...
Canal, harbour, waterway.....	1	...	...	...	...	1	...	...	...	...
Miscellaneous.....	3	324	0.6	342	0.0	2	109	0.2	450	0.0

For footnotes, see end of table.

37.—Strikes and Lockouts by Industry 1953 and 1954—concluded

Industry	1953					1954				
	No. of Strikes and Lock-outs	Workers Involved		Time Loss		No. of Strikes and Lock-outs	Workers Involved		Time Loss	
		No.	Per-cent-age	Man-Working Days	Per-cent-age		No.	Per-cent-age	Man-Working Days	Per-cent-age
Transportation and Public Utilities.....	17	8,445	15.0	85,831	6.5	6	443	0.7	3,334	0.2
Steam railways.....	1	...	...	...	...	1	...	...	...	...
Electric railways and local bus lines.....	4	5,196	9.3	5,435	0.4	2	201	0.3	2,920	0.2
Other local and highway transport.....	7	2,477	4.4	56,382	4.3	1	70	0.1	30	0.0
Water transport.....	3	474	0.8	8,584	0.6	2	160	0.3	360	0.0
Air transport.....	1	...	...	...	...	1	...	...	...	...
Telegraph and telephone.....	1	...	...	...	...	1	...	...	...	...
Electricity and gas.....	2	23	0.0	80	0.0	1	12	0.0	24	0.0
Miscellaneous.....	1	275	0.5	15,350	1.2	1	...	...	...	...
Trade.....	15	3,338	6.0	20,470	1.5	16	924	1.5	10,103	0.7
Finance.....	1	...	...	...	...	1	...	...	...	...
Service.....	10	553	1.0	10,440	0.8	19	2,029	3.3	74,473	5.0
Public administration ¹	2	186	0.3	2,886	0.2	6	367	0.6	4,148	0.3
Recreation.....	1	...	...	...	...	1	7	0.0	63	0.0
Business and personal.....	1	367	0.7	7,554	0.6	12	1,655	2.7	70,262	4.7
Miscellaneous.....	1	...	...	...	...	1	...	...	...	...
Totals.....	174	55,988	100.0	1,324,715	100.0	174	62,250	100.0	1,475,200	100.0

¹ None reported.² Includes non-ferrous metal smelting.³ Includes erection of all large bridges.⁴ Includes water service.

Section 11.—Canada and the International Labour Organization

The Department of Labour is the officially designated liaison agency between the Government of Canada and the International Labour Organization. The ILO was established in 1919, in association with the League of Nations under the Treaties of Peace, with the object of improving labour and social conditions throughout the world by international agreement and legislative action. Under an agreement approved by the General Conference of the International Labour Organization at its 29th Session held at Montreal, Que., Oct. 2, 1946 and by the United Nations General Assembly on Dec. 14, 1946 the Organization became a specialized agency of the United Nations although retaining its autonomy.

The ILO is an association of 69 Member States, financed by their governments, and democratically controlled by representatives of those governments and of their organized employers and workers. It is comprised of three main organs: (1) the International Labour Conference; (2) the International Labour Office, and (3) the Governing Body. Since World War II the ILO has extended its field of activities by the establishment of eight tripartite industrial committees to deal with problems of important world industries, by the holding of regional and special technical conferences, and by the expanded program of technical assistance to aid the development of backward countries in such fields as co-operatives, vocational training, productivity techniques and employment service organization.

The *International Labour Conference* is a world parliament for the consideration of labour and social problems. It meets annually and is attended by four delegates from each Member State (two representing the Government, one representing the employers and one representing the workers) accompanied by technical advisers. The Conference formulates international standards concerning working and living conditions in the form

of Conventions and Recommendations. A Convention, after adoption, must be considered by the competent authorities in each Member State with a view to possible ratification; however each Member State decides whether or not to ratify any Convention, and only by ratification does it assume the obligation to bring its legislation in that field up to the standard set by the Convention. A Recommendation is less formal: it contains general principles for the guidance of governments in drafting legislation or in issuing administrative orders and is not subject to ratification by the Member States.

The *International Labour Office* acts as the permanent secretariat of the ILO and as a world research and information centre and publishing house on all subjects concerned with industry and labour. In the operational field it assists Member States by furnishing experts on manpower training and technical assistance. The ILO maintains branch offices in all parts of the world, including the Canada Branch, 95 Rideau Street, Ottawa.

The *Governing Body* of the ILO, by a constitutional amendment adopted in June 1953, consists of 40 members: 20 government representatives, 10 employers' representatives and 10 workers' representatives. Of the government seats, each of the 10 Member States of chief industrial importance (of which Canada is one) holds a permanent place, and the other 10 government representatives are elected triennially by the Conference. The worker and employer members are elected by their groups every three years at the Conference. The Governing Body meets three times a year, and has general supervision over the work of the International Labour Office and the various Conferences and Committees, in addition to framing the budget and approving the agendas of the various Conferences. Canada's representative on the Governing Body is Mr. Arthur H. Brown, Deputy Minister of Labour for Canada, who is Chairman of the Governing Body for the period 1955-57.

There have been 38 Sessions of the International Labour Conference, at which 104 Conventions and 100 Recommendations have been adopted, covering a wide range of subjects such as industrial relations, freedom of association, hours of work, weekly rest, holidays with pay, minimum wages, night work of women and young persons, industrial health and safety, workmen's compensation, conditions of work for seamen and dockers, unemployment and health insurance, protection of migrant workers, equal remuneration, and many other aspects of industrial and social problems. By August 1955 the ratifications of Conventions by Member States totalled about 1,525.

Canada has ratified 18 ILO Conventions, of which 12 concern maritime and dock labour. In Canada the provincial legislatures are the competent legislative authorities with jurisdiction over the subject covered by most of the ILO Conventions and Recommendations. The Department of Labour, as the official liaison agency with the International Labour Organization, is responsible for forwarding to the ILO Office annual reports on ratified Conventions as well as periodical reports on many other industrial and social matters. Canada is represented at most of the ILO annual and special meetings and accounts of the discussions and the decisions are regularly published in the *Labour Gazette*. The Department also keeps the provincial governments and the major employer and worker organizations informed of ILO activities.

CHAPTER XIX.—TRANSPORTATION

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

The physiographic and population characteristics of Canada present unusual difficulties from the standpoint of transportation. The country extends 4,000 miles from east to west and its main topographic barriers run in a north-south direction, so that sections of the country are cut off from one another by such water barriers as Cabot Strait and the Strait of Belle Isle separating the Island of Newfoundland from the mainland; by areas of rough, rocky forest terrain such as the region lying between New Brunswick and Quebec and the areas north of Lakes Huron and Superior dividing the industrial region of Ontario and Quebec from the agricultural areas of the Prairie Provinces; and by the mountain barriers between the prairies and the Pacific Coast. Unevenly distributed along a narrow southern strip of Canada's vast area is its relatively small population of 15,601,000 (estimate of June 1, 1955). To such a country, with a population so dispersed and producing for export as well as for consumption in distant parts of the country itself, efficient and economical transportation facilities are necessities of existence.

The extent of government control over the agencies of transportation is covered in Part I of this Chapter and the following Parts deal, respectively, with the various types of transport facility.

PART I.—GOVERNMENT CONTROL OVER AGENCIES OF TRANSPORTATION

The Federal Government's control and regulation of transportation reflects to a considerable extent conditions that date back to the period when the railways possessed a virtual monopoly of transportation within the country. Although federal regulation was a direct outcome of such particular matters as the prevention of unjust discrimination in

rates and charges resulting from monopoly conditions in the industry and the safety of transportation facilities and operating practices, yet the railways have been so involved in the public interest that their regulation has been extended to become the most comprehensive of any industry in Canada.

In the meantime conditions in the transportation industry have been drastically altered by the increasing competition arising from the advance of highway transportation. Unlike the competition that existed between railways in early stages of their development, today's competition shows little indication of starting a trend toward consolidation and a return to semi-monopolistic conditions within the industry. Because so many shippers now provide their own transportation, it is evident that a large part of the present competition between common carriers will become a permanent feature of the transportation industry.

It is not surprising that regulations, which under monopoly conditions were not onerous to the railways or were purely nominal in their effect, are now alleged to have become increasingly restrictive and hampering under highly competitive conditions. Regulatory authorities are therefore faced with the problem of piecemeal revision of their regulations—retaining those where railway monopoly or near-monopoly conditions still make them necessary in the public interest, and relaxing those where competition can be relied on to protect the public in order to enable the railways to meet this competition more effectively. The emphasis has shifted from the regulation of monopoly to maintaining a balance between the several competing modes of transport. Indicative of this trend is the amendment to the Transport Act passed in 1955, which extends the freedom of the railways to make the contract rates with shippers known as agreed charges.

On Nov. 2, 1936 the amalgamation of the Department of Railways and Canals and the Department of Marine, together with the Civil Aviation Branch of the Department of National Defence to form the new Department of Transport brought under one control railways, canals, harbours, marine and shipping, civil aviation, radio and meteorology.

Road and highway development is mainly under provincial or municipal control or supervision. According to the Judgment of the Judicial Committee of the Privy Council dated Feb. 22, 1954 jurisdiction over interprovincial and international highway transport rests with the Federal Government. Federal and provincial representatives conferred in Ottawa in April 1954 on means of implementing that decision and on June 26, 1954 the Motor Vehicle Transport Act was passed by the Federal Parliament giving to all provinces, at their option, the authority to apply to interprovincial and international highway transport the same regulations respecting certificates of public convenience and necessity and rates as they apply to undertakings operating entirely within the province. This Act has since been proclaimed in seven provinces.

Under the Transport Act 1938 the Board of Railway Commissioners became the Board of Transport Commissioners and the Board, in addition to its authority over railways, was given power to regulate certain aspects of water transportation on the Great Lakes and on the Mackenzie and Yukon Rivers.

The Royal Commission on Transportation, in its Report to Parliament in 1951, recommended the more complete co-ordination of transport agencies by the creation of a single Board to take over the functions then discharged by the Board of Transport Commissioners, the Air Transport Board and the Canadian Maritime Commission. No action has been taken by Parliament on this recommendation.

The Board of Transport Commissioners for Canada.—The situation that led to the introduction of railway regulation by Commission in Canada, and other information relating to the organization, procedure, judgments, etc., of the Board of Transport Commissioners is dealt with in the 1940 Year Book, pp. 633-635.

The powers of the Board with regard to rail transport cover almost all aspects of railway activities including corporate organization, location, construction and operation of lines, rates and charges. The railways under the Board's jurisdiction include those operating interprovincially, the Canadian portions of United States lines and those incorporated under federal charter. In addition the Board assumes jurisdiction over any railway which,

by Act of Parliament, has been declared to be for the general advantage of Canada. In practice this means that, apart from provincially owned railways in Ontario and British Columbia, all railways in Canada are under the Board's authority.

Once constituted the Board became the logical body to be entrusted with the regulation of other transportation and communication agencies. The list has grown steadily and now includes express companies, telegraph companies, telephone companies, other than those provincially or municipally controlled, international bridges and tunnels, inland shipping and pipelines. Regulation of traffic of water carriers on the Great Lakes-St. Lawrence system is limited to package freight and thus excludes the important bulk traffic in grain, coal and ore.

A review of transportation regulation was undertaken by the Royal Commission on Transportation, under the chairmanship of the Hon. W. F. A. Turgeon, which held extensive hearings in 1949-50 and issued its Report in 1951. (See 1952-53 Year Book, p. 741.) Certain of its recommendations have been incorporated into amendments to the Railway Act including: the equalization of freight rates between all regions of Canada, affecting chiefly the class and commodity mileage rates; the requirement that, when transcontinental competitive rates are published, the corresponding rates to intermediate points shall not be more than one-third greater than the former; the payment by the Government of Canada of the cost of maintaining the so-called 'bridge' lines of the transcontinental systems in Ontario (between Sudbury, Capreol and Cochrane and between Port Arthur and Armstrong), up to the amount of \$7,000,000 annually, the amounts so received by the railways to be offset by certain reductions in rates between eastern and western Canada; the requirement of a uniform classification of accounts to be prescribed by the Board of Transport Commissioners for the Canadian Pacific Railway and the Canadian National Railways; and the simplification of the capital structure of the Canadian National Railways involving the replacement of Government-held debt by preferred stock. Pursuant to the amendments a uniform scale of mileage loss rates has been prescribed and hearings have been held *re* equalization of commodity rates. Agreed charges were also reviewed by the Hon. W. F. A. Turgeon in 1955 and his recommendations were implemented in amendments to the Transport Act in 1955.

Certain other recommendations of the Commission have been put into effect, or are being studied with a view to putting them into effect at an early date without any legislative amendments. These include the establishment of a uniform carload mixing rule and a general revision of the freight classification.

The Air Transport Board.—The Air Transport Board was established in September 1944 by amendment to the Aeronautics Act. Subsequent amendments to the Act were made in 1945, 1950 and 1952. The Board has three members including the Chairman, and the staff comprises an Executive Director's Branch including Legal, International Relations, and Traffic Divisions, and a Secretary's Branch including Administrative, Licensing, and Inspection and Enforcement Divisions.

The Board is responsible for the economic regulation of commercial air services in Canada and is also required to advise the Minister of Transport in the exercise of his duties and powers in all matters relating to civil aviation. The regulatory function relates to Canadian air services within Canada and abroad and to foreign air services operating into Canada. It involves the licensing of all such services and the subsequent regulation of the licensees in respect of their economic operation and the provision of service to the public. As provided by the Act, the Board issues Regulations, approved by the Governor in Council, dealing with the classification of air carriers and commercial air services, applications for licences to operate commercial air services, accounts, records and reports, ownership, transfers, consolidation, mergers and leases of commercial air services, traffic tolls and tariffs, and other related matters. Detailed regulatory instructions are issued by the Board in the form of General Orders, published in the *Canada Gazette*, relating to all air services or groups of air services; Board Orders relating to individual air services; and Rules and Circulars for general guidance and information.

Financial and operating statistics are collected under authority of the Board's Regulations by the Economics Division of the Department of Transport, which serves the Board of Transport Commissioners for Canada as well as the Air Transport Board.

The Board is currently devoting special attention to the publication of a uniform charter tariff and to the formulation of basic principles for the guidance of operators in the establishment of their rates and fares. Helicopter operations are under constant review by an economic and technical committee set up for the purpose.

The rapid industrial and commercial advancement of the country has reflected the use of increasingly larger aircraft necessitating further study and possible alteration of the basic policies underlying Air Transport Board regulations in the field of charter operations, both domestic and international.

In the field of international aviation, the Board continues to take an active part in the work of the International Civil Aviation Organization, a member of its staff being the representative of Canada on the Council, and has participated in discussions and negotiations with several countries concerning proposed new bilateral air-transport agreements and amendments to existing agreements.

Canadian Maritime Commission.—By authority of an Act of Parliament (R.S.C. 1952, c. 38) passed in 1947 the Canadian Maritime Commission was constituted for the purpose of examining into, keeping records of, and advising the Minister of Transport on matters pertaining to Canadian shipping and shipbuilding services.

In addition to these duties, the Act empowers the Commission to:—

- (1) exercise and perform on behalf of the Minister such powers, duties and functions of the Minister under the Canada Shipping Act 1934, as the Minister may require;
- (2) administer, in accordance with regulations of the Governor in Council, any steamship subventions voted by Parliament; and
- (3) exercise or perform any other powers, duties or functions conferred on or required to be performed by the Commission by or pursuant to any other Act or order of the Governor in Council.

PART II.—RAIL TRANSPORTATION*

The treatment of rail transport in this Chapter is divided into three Sections dealing, respectively, with railways, urban transit systems and express companies.

Section 1.—Railways

The railways of Canada have served and will continue to serve as the principal facility of movement because only they have the capacity to supply cheap all-weather transportation in large volume over continental distances. Because of their premier importance in the transport picture, statistics concerning them are much more complete than for other forms of transportation.

Two great transcontinental railway systems operate almost all of the railway facilities in Canada. The Canadian National Railway System, a government owned system, is Canada's largest public utility operating, in addition to its rail network and the multifarious associated facilities, a fleet of coastal and ocean-going steamships, a nationwide telegraph service providing efficient communication between all principal points of Canada with connections to all parts of the world, express facilities in Canada and abroad, a chain of hotels, a scheduled trans-Canada and North American air service and a trans-Atlantic air service. The Canadian Pacific Railway Company, a joint-stock corporation, has, in addition to its farflung railway operations, a fleet of inland, coastal and ocean-going vessels, a north-south airline system which is one of the world's greatest air freight carriers, a transpacific airline service to the Orient and the Antipodes, air service to Mexico and

* Revised in the Public Finance and Transportation Division, Dominion Bureau of Statistics; more detailed information is given in the annual reports of the Division. Certain of the financial statistics were compiled in co-operation with the Department of Transport.

Peru and a Polar route from Vancouver to Amsterdam, a chain of year round and resort hotels, a cross-Canada telegraph network, a worldwide express service and a truck and bus transport service.

The statistics of Subsections 1 to 3 of this Section cover the combined railway facilities of all companies operating in Canada. Details relating to the Canadian National Railway System are dealt with separately in Subsection 4. A special article covering the consolidation and organization of the CNR appears in the 1955 Year Book, pp. 840-847.

Subsection 1.—Milage and Equipment

Construction was begun in 1835 on the first railway in Canada—the short link of 14.5 miles between Laprairie and St. Johns, Que.—but only 66 miles were in operation by 1850. The first great period of construction was in the 1850's when the Grand Trunk and the Great Western Railways were built as well as numerous smaller lines. The building of the Intercolonial and the Canadian Pacific Railways contributed to another period of rapid expansion in the 1870's and 1880's. In the last period of extensive railway building (1900-1917), the Grand Trunk Pacific, National Transcontinental and Canadian Northern Railways were constructed.

There has been little change in the milage of single track line since the 1920's but recently the construction of several large industrial projects in outlying districts has sparked a new phase of railway building. Entirely new districts have been opened up by the construction of the 43 mile Terrace-Kitimat line in British Columbia, the 144 mile Sherridon-Lynn Lake line in Manitoba and the 360 mile Quebec, North Shore and Labrador Railway. A new 80 mile line links Quesnel and Prince George in British Columbia. A 16 mile line connecting the mining community of Nephton with Havelock in eastern Ontario provides easy access to an area producing non-metallic rock. Two branch lines, one from Struthers to Greco and one from Hillsport to Manitouwadge, tap this new mining district of northwestern Ontario, and a line was under construction in 1955 to open up another Quebec mining area from Beattyville to Chibougamau and St. Felicien. In Saskatchewan also, about 29 miles of new track have been completed. While these new lines have added considerably to the single track milage placed in operation in the past few years, other lines have been abandoned because they were unprofitable so that the new milage is not altogether reflected in the totals shown in Table 1.

1.—Railway Track Milage Operated 1900-53

NOTE.—Figures of total milage of single track operated for 1835-1909 are given in the 1941 Year Book, p. 546, or 1911-14 in the 1954 edition, p. 786, and for 1916-24 in the 1955 edition, p. 830.

TOTAL MILAGE—SINGLE TRACK				MILAGE BY PROVINCE				
Year	Miles in Operation	Year	Miles in Operation	Type of Track and Province	1949	1951	1952	1953
	No.		No.		No.	No.	No.	No.
1900.....	17,657	1936.....	42,552	Single—				
1905.....	20,487	1937.....	42,727	Nfld.....	705	705	705	705
1910.....	24,731	1938.....	42,742	P.E.I.....	286	285	285	285
1915.....	34,882	1939.....	42,637	N.S.....	1,396	1,396	1,396	1,396
1920.....	38,805	1940.....	42,565	N.B.....	1,835	1,835	1,834	1,834
				Que.....	4,791	4,789	4,830	4,829
1925.....	40,350			Ont.....	10,462	10,440	10,384	10,386
1926.....	40,487	1941.....	42,441	Man.....	4,836	4,834	4,834	4,979
1927.....	40,570	1942.....	42,339	Sask.....	8,739	8,739	8,739	8,733
1928.....	41,022	1943.....	42,346	Alta.....	5,643	5,647	5,660	5,660
1929.....	41,380	1944.....	42,336	B.C.....	3,888	3,889	3,889	3,959
		1945.....	42,352	Yukon.....	58	58	58	58
1930.....	42,047			In U.S.A.....	339	339	339	339
1931.....	42,280	1946.....	42,335					
1932.....	42,409	1947.....	42,322	Totals, Single.....	42,978	42,956	42,953	43,163
1933.....	42,336	1948.....	42,248	Second.....	2,494	2,487	2,488	2,485
1934.....	42,270	1949.....	42,978	Industrial.....	1,925	2,068	2,130	2,178
1935.....	42,916	1950.....	42,979	Yard and sidings.....	10,437	10,639	10,720	10,869
				Grand Totals.....	57,834	58,150	58,291	58,695

Rolling Stock.—The figures in Table 2 may be supplemented by the statement that between 1949 and 1953 the average capacity of box cars increased from 43,531 tons to 45,065 tons and of gondola cars from 61,453 tons to 63,747 tons, flat cars from 42,892 tons to 44,127 tons, hopper cars from 58,721 tons to 63,588 tons and of all freight cars from 45,335 tons to 47,526 tons. The average tractive power of locomotives advanced during the same period from 41,923 lb. to 42,741 lb. The gradual changeover to diesel operation is indicated by the decrease in steam locomotives and the steady increase in oil burning and diesel locomotives in operation.

2.—Railway Rolling Stock in Operation as at Dec. 31, 1949-53

Type	1949	1950	1951	1952	1953
	No.	No.	No.	No.	No.
Locomotives	4,627	4,655	4,715	4,810	4,818
Steam—					
Coal burning.....	4,351	3,730	3,553	3,423	3,162
Oil burning.....		542	555	591	667
Diesel electric.....	246	350	574	763	956
Electric.....	30	33	33	33	33
Passenger Cars	6,224	6,333	6,366	6,328	6,456
First class.....	1,996	2,043			
Second class.....	177	168	2,169	2,088	2,064
Combination.....	337	337	339	339	331
Immigrant.....	347	333	315	302	291
Dining.....	195	196	196	183	180
Parlour.....	175	176	153	162	161
Sleeping.....	775	795	803	805	801
Baggage, express and postal.....	1,766	1,808	2,201	2,244	2,430
Motor.....	54	52	49	55	59
Other.....	402	430	141	150	139
Freight Cars	177,614	175,597	180,725	186,557	187,950
Automobile.....	6,075	6,087	6,396	7,330	7,560
Ballast.....	1,772	1,862	1,803	1,847	1,940
Box.....	118,576	116,332	121,318	121,828	119,753
Flat.....	10,951	11,263	11,062	11,748	11,690
Gondola.....	14,135	13,922	14,098	16,552	17,603
Hopper.....	9,100	8,903	8,897	10,083	11,598
Ore.....	1,902	1,954	1,902	1,878	1,969
Refrigerator.....	7,921	8,050	8,231	8,691	9,438
Stock.....	6,648	6,655	6,509	6,284	6,057
Tank.....	454	469	460	268	328
Other.....	80	100	49	48	44

Subsection 2.—Finances

The tables in this Subsection give information on capital liability and capital investment, earnings, operating expenses, employees and their earnings and government aid to all railways.* Financial statistics of government owned railways are given separately and in detail in Subsection 4.

Capital Liability and Investment.—The capital liability of the Canadian railways for the years 1934 to 1953 is shown in Table 3. The increase of \$146,547,586 in 1953 over 1952 compares with an increase in investment in road and equipment of \$205,135,829, as shown in Table 4, and reflects improvements made during the year. The investment account in recent years has been affected by write-offs for lines abandoned, transfers of property, and other factors.

* Statistics for individual railways are given in DBS annual report, *Railway Transport*, published in five parts.

3.—Capital Liability¹ of Railways 1934-53

NOTE.—Figures for 1876 to 1925 are given in the 1927-28 Year Book, p. 649; those for 1926-33 in the 1947 edition, p. 662.

Year	Stocks	Funded Debt	Total	Year	Stocks	Funded Debt	Total
	\$	\$	\$		\$	\$	\$
1934.....	1,437,334,152	2,966,505,594	4,403,839,746	1944.....	1,636,064,822	1,707,801,676	3,343,866,498
1935.....	1,433,849,530	3,026,414,779	4,460,264,309	1945.....	1,631,973,055	1,701,786,899	3,333,759,954
1936.....	1,425,193,791	3,062,411,720	4,487,605,511	1946.....	1,624,753,709	1,665,844,138	3,290,597,847
1937 ²	1,839,619,361	1,534,450,789	3,374,070,150	1947.....	1,623,607,219	1,685,010,672	3,308,617,891
1938.....	1,836,882,650	1,568,269,672	3,405,152,322	1948.....	1,578,057,474	1,672,282,030	3,250,339,504
1939.....	1,834,329,209	1,533,373,521	3,367,702,730	1949.....	1,576,734,292	1,692,898,968	3,269,633,260 ³
1940.....	1,762,473,489	1,617,561,683	3,380,035,172	1950.....	1,649,462,088	1,826,346,222	3,475,808,310 ³
1941.....	1,697,545,699	1,699,942,865	3,397,488,564	1951.....	1,646,205,772	1,925,488,160	3,571,693,932 ³
1942.....	1,578,254,765	1,793,579,270	3,371,834,035	1952 ²	2,406,309,060	1,308,899,612	3,715,208,672 ³
1943.....	1,614,936,131	1,741,664,036	3,356,600,167	1953.....	2,422,692,856	1,439,063,402	3,861,756,258 ³

¹ Does not include Canadian railway capital owned by Canadian railways.
in the capital structure of the CNR (*see* pp. 801-802).

² Affected by readjustment
³ Exclusive of approximately \$40,000,000 railway debt in Newfoundland assumed in 1949.

4.—Capital Invested in Railway Road and Equipment 1949-53

NOTE.—Expenditures for Newfoundland are included from April 1, 1949.

Investment	1949	1950	1951	1952	1953
	\$	\$	\$	\$	\$
New Lines—					
Road.....	1,428,972	6,285,165	6,301,717	11,431,609	8,352,231
Equipment.....	—	—	1,552,117	19,210	35,287
General.....	33,409	50,634	53,901	52,510	Cr. 189,856
Totals.....	1,462,381	6,335,799	7,907,735	11,503,329	8,197,662
Additions and Betterments—					
Road.....	25,643,350	25,523,673	42,260,214	42,243,299	40,667,130
Equipment.....	75,393,226	52,666,164	107,478,591	128,696,815	156,012,197
General.....	Cr. 7,175	54,058	Cr. 70,318	70,585	102,847
Undistributed.....	Cr. 3,494	3,399	Cr. 2,381	Cr. 2,539	Cr. 134,414
Totals.....	101,025,907	78,247,294	149,666,106	171,008,160	196,647,760
Undistributed ¹	261,234	Cr. 2,645,822	Cr. 1,318,920	Cr. 37,797	290,407
Total Investment as at Dec. 31...	3,702,767,675	3,784,704,946	3,940,959,867	4,123,433,559	4,328,569,388

¹ Details given in DBS annual report, *Railway Transport*, published in five parts.

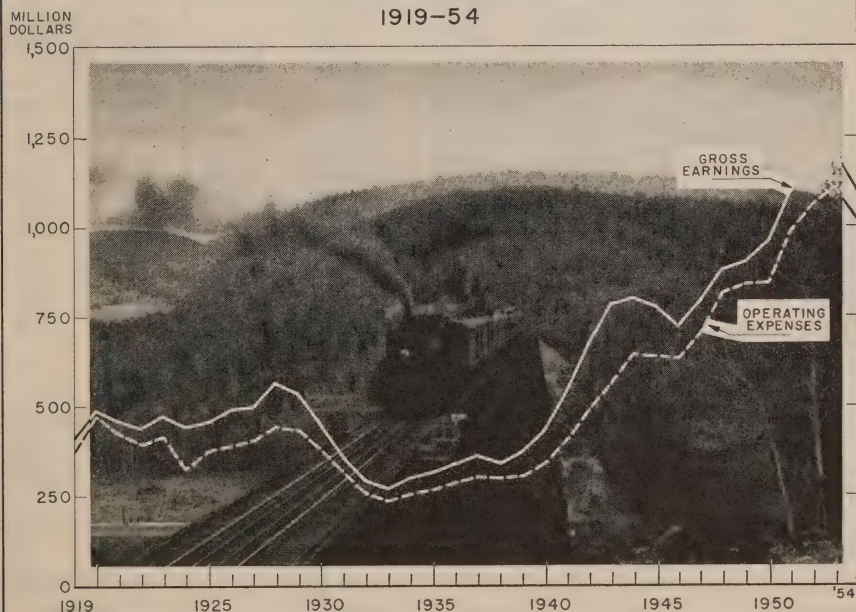
Earnings and Expenses.—The operating ratio, or ratio of expenditure to revenue, of Canadian railways in 1943 reversed a declining trend and began to rise, mainly because of increasing costs for materials and labour. From 1943 to 1953 gross earnings increased 54.8 p.c., but operating expenses increased 96.3 p.c., so that net earnings per mile of line showed a decrease of 48.2 p.c.

5.—Earnings and Operating Expenses of Railways 1944-53

NOTE.—Gross earnings and operating expenses for 1875 to 1914 are given in the 1916-17 Year Book, p. 434; those for 1915-25 in the 1941 Year Book, p. 550; for 1926-39 in the 1942 Year Book, p. 585; and for 1940-43 in the 1951 Year Book, p. 722. Newfoundland included from Apr. 1, 1949.

Year	Gross Earnings	Operating Expenses	Ratio of Expenses to Receipts	Per Mile of Line			Freight Train Revenue per Freight Train Mile	Passenger Train Revenue per Passenger Train Mile
				Gross Earnings	Operating Expenses	Net Earnings		
	\$	\$	p.c.	\$	\$	\$	\$	\$
1944.....	796,636,786	634,774,021	79.68	18,861	15,029	3,832	6.91	3.82
1945.....	774,971,360	631,497,562	81.49	18,331	14,937	3,394	6.92	3.70
1946.....	718,501,764	623,529,472	86.79	16,967	14,724	2,243	6.83	3.21
1947.....	785,177,920	690,821,047	87.98	18,556	16,326	2,230	7.38	3.01
1948.....	875,832,290	808,126,455	92.27	20,702	19,102	1,600	8.38	2.92
1949.....	894,397,264	831,456,446	92.96	20,866	19,398	1,468	8.66	3.10
1950.....	958,985,751	833,726,562	86.94	22,311	19,397	2,914	9.45	3.19
1951.....	1,088,583,789	977,577,062	89.80	25,348	22,763	2,585	10.05	3.36
1952.....	1,172,158,665	1,057,186,304	90.19	27,272	24,597	2,675	10.56	3.50
1953.....	1,205,935,414	1,100,393,836	91.25	28,020	25,567	2,453	11.43	3.53

GROSS EARNINGS AND OPERATING EXPENSES
OF RAILWAYS
1919-54



6.—Distribution of Railway Operating Expenses 1950-53

Item	1950		1951		1952		1953	
	\$	p.c.	\$	p.c.	\$	p.c.	\$	p.c.
Way and structures.....	163,998,704	19·7	202,490,988	20·7	215,411,186	20·4	227,049,996	20·6
Equipment.....	189,507,197	22·7	224,184,671	22·9	243,341,926	23·0	254,035,999	23·1
Traffic.....	18,591,724	2·2	19,958,080	2·1	21,297,453	2·0	22,839,459	2·1
Transportation.....	403,994,207	48·5	468,653,237	47·9	504,034,668	47·7	516,086,712	46·9
General and miscellaneous.....	57,634,730	6·9	62,290,086	6·4	73,101,071	6·9	80,381,670	7·3
Totals.....	833,726,562	100·0	977,577,062	100·0	1,057,186,304	100·0	1,100,393,836	100·0

Employment and Salaries and Wages.—In the ten latest years for which figures are available (1944-53) the number of railway employees increased by 21 p.c. and their salaries and wages by 95 p.c. Maintenance-of-equipment employees, on hourly rates, worked about 14 p.c. fewer hours and were paid 87 p.c. more wages per hour; average hours worked by transportation employees were nearly 15 p.c. fewer and their pay was increased by about 80 p.c. These figures reflect salary and wage increases received in 1950, 1952 and 1953 and the conversion to the five day week in 1951.

7.—Railway Employees and their Earnings 1944-53

NOTE.—Figures include employees and wages for 'outside' operations amounting to from 3 to 6 p.c. of total employees and from 2 to 5 p.c. of total salaries and wages. Figures for 1912-39 are given in the 1941 Year Book, p. 551; for 1940-43 in the 1951 edition, p. 723. Newfoundland included from Apr. 1, 1949.

Year	Employees	Total Earnings	Average Salaries and Wages	Ratio of Operating Earnings (chargeable to operating expenses) to—	
				Gross Earnings	Operating Expenses
	No.	\$	\$	p.c.	p.c.
1944.....	175,095	372,064,613 ¹	2,125	42·9	53·8
1945.....	180,603	371,814,379	2,059	43·8	53·7
1946.....	180,383	396,856,901	2,200	50·2	57·8
1947.....	184,415	429,843,142	2,331	49·9	56·7
1948.....	189,963	512,054,795	2,696	53·0	57·5
1949.....	192,366	523,453,375	2,721	52·9	56·9
1950.....	190,385	523,008,515	2,747	49·8	57·2
1951.....	204,025	624,682,754	3,062	52·0	58·0
1952.....	214,143	669,457,962	3,126	52·1	57·7
1953.....	211,951	724,077,594	3,416	53·4	58·6

¹ Includes approximately \$10,000,000 in wages earned in 1943.

Government Aid to Railways.—In order that the private railways of Canada might be constructed in advance of settlement as colonization roads or through sparsely settled districts where little traffic was available, it was necessary for federal and provincial governments and even for municipalities to extend some form of assistance. The form of aid was usually a bonus of a fixed amount for each mile of railway constructed and, in the early days, grants of land were also made other than for right-of-way.

As the country developed, objections to the land-grant method became increasingly apparent and aid was given more frequently in the form of a cash subsidy for each mile of line, a loan or a subscription to the shares of the railway. Guarantees of debenture

issues were given in a later period and, since the formation of the Canadian National Railways, all debenture issues of that System, except those for rolling stock, have been guaranteed by the Federal Government. No new land grants or cash subsidies have been advanced by either the federal or provincial governments since 1939.

During the era of railway expansion before 1918 provincial governments guaranteed the bonds of some railway lines that afterwards were incorporated in the Canadian National Railway System. These bonds as they mature or are called are paid off by the Canadian National Railways, in large measure, through funds raised by the issue of new bonds with Federal Government guarantee. Bonds guaranteed by the Governments of Ontario, Manitoba, Saskatchewan, Alberta and British Columbia have been eliminated in this manner in recent years. The only provincially guaranteed railway bonds outstanding at Dec. 31, 1953 were those of the Government of New Brunswick to the amount of \$465,000. Federal Government guarantees at the same date amounted to \$510,248,955; this amount does not include \$3,728,436 perpetual debenture stock and guaranteed stock of the former Grand Trunk Railway, now part of the Canadian National Railway System, on which interest and dividends are guaranteed by the Federal Government.

Subsection 3.—Traffic

Table 8 shows the passenger and freight statistics for all railways for the years 1944-53. A separate analysis of the operations and traffic of the Canadian National Railways is given at pp. 802-803.

8.—Statistics of Passenger and Freight Services and Revenue Receipts 1944-53

NOTE.—Figures for 1910-43 are given in the corresponding table of previous Year Books.

Year	PASSENGER				
	Revenue Passenger-Train Miles ¹	Passenger-Train Car Miles ¹	Passengers Carried ²	Passengers Carried One Mile	Passengers Carried One Mile per Mile of Line
	No.	No.	No.	No.	No.
1944.....	46,575,706	450,042,986	60,335,950	6,873,188,000	162,729
1945.....	47,067,607	447,822,527	53,407,845	6,380,155,000	150,917
1946.....	45,700,856	415,890,589	43,405,177	4,648,558,000	109,773
1947.....	45,367,725	398,646,636	40,941,387	3,732,777,000	88,218
1948.....	46,101,568	410,689,409	38,279,981	3,477,273,000	82,193
1949.....	45,680,009	407,421,229	34,883,803	3,193,174,337	74,497
1950 ³	43,744,164	392,800,555	31,139,092	2,816,154,232	65,519
1951.....	46,200,947	415,178,734	30,995,604	3,110,240,504	72,424
1952.....	47,663,617	431,234,562	30,167,145	3,151,261,385	73,319
1953.....	46,977,271	430,726,717	28,736,159	2,985,943,809	69,378
	Average Receipts per Passenger Mile	Average Receipts per Passenger	Average Passenger Journey	Average Passengers per Train	Passenger-Train Revenue per Passenger-Train Mile
	cts.	\$	miles	No.	\$
1944.....	1-92	2-18	114	148	3-82
1945.....	1-96	2-34	120	136	3-70
1946.....	2-15	2-30	107	102	3-21
1947.....	2-35	2-14	91	82	3-01
1948.....	2-40	2-18	91	75	2-92
1949.....	2-66 ³	2-44 ³	92 ³	69	3-05
1950 ³	2-79	2-52	90	64	3-19
1951.....	2-86	2-87	100	67	3-36
1952.....	2-88	3-01	104	66	3-50
1953.....	2-88	2-99	104	64	3-53

For footnotes, see end of table.

8.—Statistics of Passenger and Freight Services and Revenue Receipts 1944-53—concluded

Year	FREIGHT					
	Revenue Freight- Train Miles	Revenue Freight- Train Car Miles ⁴	Freight Carried ⁵	Freight Carried One Mile	Freight Carried One Mile per Mile of Line	
	No.	No.	tons	tons	tons	
1944.....	83,564,629	3,297,475,933	155,326,332	65,928,078,000	1,560,908	
1945.....	80,712,589	3,189,311,345	147,348,566	63,349,095,000	1,498,465	
1946.....	77,794,963	2,973,411,653	139,256,125	55,310,308,000	1,306,121	
1947.....	82,377,565	3,176,646,828	152,855,820	60,143,035,000	1,421,384	
1948.....	83,398,617	3,120,704,440	154,932,804	59,080,323,000	1,396,500	
1949.....	81,648,053	3,091,633,447	142,719,431 ³	56,338,230,000 ³	1,314,379 ³	
1950 ³	81,397,148	3,093,946,961	144,218,319	55,537,900,000	1,292,120	
1951.....	87,181,640	3,384,341,192	161,260,521	64,300,418,000	1,497,274	
1952.....	89,217,123	3,551,802,171	162,175,381	68,430,417,000	1,592,146	
1953.....	84,997,904	3,448,530,542	156,249,259	65,267,016,000	1,516,462	
	Freight Receipts per Ton per Mile	Receipts per Ton Hauled	Average Length of Freight Haul	Average Train Load, Revenue Tons	Average Load per Loaded Car Mile	Revenue per Freight- Train Mile
	cts.	\$	miles	tons	tons	\$
1944.....	0.876	3.72	424	789	32.70	6.91
1945.....	0.882	3.79	430	785	32.57	6.92
1946.....	0.961	3.82	397	711	29.95	6.83
1947.....	1.009	3.98	393	730	30.23	7.38
1948.....	1.183	4.51	381	708	30.16	8.38
1949.....	1.256 ³	4.96 ³	395 ³	689	29.65	8.62
1950 ³	1.385	5.33	385	682	28.91	9.45
1951.....	1.362	5.43	399	738	30.61	10.05
1952.....	1.377	5.81	422	767	31.68	10.56
1953.....	1.489	6.22	418	768	31.16	11.43

¹ Includes express, baggage, mail and other cars. ² Duplications included. ³ Newfoundland included from 1950. ⁴ Includes caboose miles but excludes miles made in passenger and non-revenue trains. ⁵ Duplications eliminated; see Table 9 for details of freight carried.

The amount of revenue freight carried on the railways in 1953 was slightly less than that carried in 1952. Of the 156,249,259 tons carried in the later year, mine products accounted for 34.0 p.c., manufactured and miscellaneous products 31.2 p.c., agricultural products 23.2 p.c., forest products 10.4 p.c., and animals and animal products 1.2 p.c. As compared with 1952 agricultural products carried dropped 2.9 p.c., mine products 3.2 p.c., forest products 16.2 p.c., and manufactures and miscellaneous products 0.3 p.c. The animal products group was the only one to record an increase and that increase amounted to 10.3 p.c. The largest increases among the individual commodities carried were shown by meats and other edible packing-house products, sand and gravel, stone, gasoline and petroleum products and automobiles, trucks and parts.

9.—Commodities Hauled as Freight on Railways 1949-53

NOTE.—In this table duplications are eliminated, i.e., the same freight handled by two or more railways is counted only once. The statistics do not include the United States lines of the Canadian National Railways, but the link of the Canadian Pacific Railway line across Maine, U.S.A., is included, as are the Canadian sections of United States railways.

Commodity Group and Products	1949 ¹	1950	1951	1952	1953
	tons	tons	tons	tons	tons
Agricultural Products.....	28,290,321	24,375,858	31,739,398	37,402,773	36,305,797
Wheat.....	12,861,460	10,180,638	15,444,631	19,026,645	18,463,859
Oats.....	2,623,349	1,998,361	2,679,391	3,219,709	3,188,551
Other grain.....	4,195,518	3,430,079	4,703,796	6,465,472	6,301,193
Flour.....	2,012,513	1,996,281	2,222,861	2,233,819	2,043,808
Other mill products.....	2,463,699	2,479,974	2,565,747	2,584,815	2,327,895
Other agricultural products.....	4,233,782	4,290,525	4,122,972	3,872,313	3,980,491

For footnotes, see end of table.

9.—Commodities Hauled as Freight on Railways 1949-53—concluded

Commodity Group and Products	1949 ¹	1950	1951	1952	1953
	tons	tons	tons	tons	tons
Animal Products	2,539,475	2,302,225	2,196,327	1,693,690	1,868,285
Livestock.....	976,565	907,046	759,169	679,624	670,040
Meats and other edible packing-house products.....	894,266	764,040	815,267	496,038	656,695
Other animal products.....	668,644	631,139	621,891	518,028	541,550
Mine Products	51,741,450	55,748,420	56,955,106	54,821,932	53,081,658
Coal, anthracite.....	4,099,390	4,481,323	4,110,389	3,879,154	2,911,118
Coal, bituminous.....	13,946,461	15,058,571	14,505,205	13,796,983	12,270,030
Coal, subbituminous.....	2,340,378	2,400,271	2,151,652	2,090,353	1,719,554
Coal, lignite.....	1,521,762	1,787,972	1,802,473	1,641,374	1,562,262
Coke.....	1,805,620	1,899,872	2,223,652	2,145,360	1,802,753
Ores and concentrates.....	11,715,952	12,312,946	13,284,529	12,876,555	13,007,268
Base bullion, matte, pig and ingot (non-ferrous metals).....	1,330,464	1,427,581	1,446,910	1,428,033	1,451,520
Sand and gravel.....	3,118,677	3,582,968	3,900,617	4,503,818	5,646,813
Stone (crushed, ground, broken).....	2,629,652	2,788,301	3,486,464	3,903,012	4,087,903
Other mine products.....	9,233,094	10,008,616	9,143,215	8,557,285	8,622,437
Forest Products	15,596,398	15,830,339	20,835,917	19,330,157	16,194,487
Logs, posts, poles, piling.....	1,439,447	1,350,064	1,832,259	2,372,333	1,947,648
Cordwood and other firewood.....	457,848	440,306	355,213	282,089	178,459
Pulpwood.....	6,555,770	5,521,412	9,970,231	8,663,783	5,878,947
Lumber, timber, box, crate and cooperage material.....	6,418,854	7,778,428	7,867,650	7,153,936	7,237,941
Other forest products.....	724,479	740,129	810,555	858,016	951,492
Manufactures and Miscellaneous	44,551,787	45,961,477	50,433,773	48,926,829	48,799,032
Gasoline and petroleum products.....	5,806,468	6,228,127	6,722,065	7,460,770	7,611,184
Iron and steel (bar, sheet, structural pipe).....	2,720,250	2,633,274	3,501,728	3,454,358	3,409,566
Automobiles, trucks and parts.....	2,102,622	2,517,930	2,456,566	2,302,126	2,809,963
Newsprint.....	3,747,561	3,844,113	4,056,679	4,010,699	3,927,865
Pulp.....	1,791,868	2,311,057	2,750,103	2,178,170	2,074,796
Other manufactures and miscellaneous.....	24,770,961	25,099,776	27,725,675	26,654,758	26,247,295
Merchandise ² (all L.C.L. freight).....	3,612,057	3,329,200	3,220,957	2,865,948	2,718,363
Grand Totals	142,719,431	144,218,319	161,260,521	162,175,381	156,249,259

¹ Newfoundland included from Apr. 1, 1949.² Less than carload lots.

Railway Accidents.—In Tables 10 and 11 all passengers injured are included in the figures but, for employees, only injuries are recorded that keep the employee from his work for at least three days during the ten days following the accident.

10.—Passengers, Employees and Others Killed or Injured on Railways 1944-53

NOTE.—Figures for 1919-43 are given in the corresponding tables of previous Year Books beginning with the 1922-23 edition.

Year	Passengers		Employees		Others ¹		Totals	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
	No.	No.	No.	No.	No.	No.	No.	No.
1944.....	8	562	103	13,187	242	630	353	14,379
1945.....	10	499	98	13,147	246	705	354	14,351
1946.....	3	526	105	11,406	219	706	327	12,638
1947.....	35	464	103	10,620	262	755	400	11,839
1948.....	15	351	99	9,980	271	825	385	11,156
1949 ²	1	316	71	8,794	257	824	329	9,934
1950.....	18	297	67	8,108	232	744	317	9,149
1951.....	5	221	84	7,651	301	723	390	8,595
1952.....	2	183	74	7,019	317	707	393	7,909
1953.....	4	181	35	5,917	266	727	305	6,825

¹ Includes trespassers walking along tracks, stealing rides, etc., and persons crossing tracks at level crossings.² Newfoundland included from Apr. 1, 1949.

Accidents tabulated include all those in which railway trains were involved and accidents on railway property. The classification of accidents used for DBS vital statistics treats collisions between motor vehicles and trains as motor vehicle accidents; provincial statistics also class them as motor vehicle accidents and consequently adjustments should be made when compiling total accidental deaths of all kinds or comparing results of accidents of different kinds, such as train and motor vehicle.

11.—Persons Killed or Injured on Railways by Specified Cause 1951-53

Class of Person and Description of Accident	1951		1952		1953	
	Killed	Injured	Killed	Injured	Killed	Injured
ACCIDENTS RESULTING FROM MOVEMENT OF TRAINS, LOCOMOTIVES OR CARS						
Class of Person—	No.	No.	No.	No.	No.	No.
Passengers.....	4	191	2	125	3	133
Employees.....	69	2,341	61	2,430	30	2,017
Trespassers.....	77	83	100	82	77	90
Non-trespassers.....	209	493	208	481	174	479
Postal clerks, expressmen, etc.....	3	19	4	38	6	62
Totals.....	362	3,127	375	3,156	290	2,781
Description of Accidents (Employees and Passengers only)—						
Coupling and uncoupling.....	7	103	2	106	1	78
Collisions.....	21	166	28	195	9	112
Derailments.....	7	54	5	38	7	109
Locomotives or cars breaking down.....	1	4	—	1	—	—
Falling from trains or cars.....	5	157	4	176	3	117
Getting on or off trains.....	3	542	1	533	—	457
Struck by trains, etc.....	21	53	12	36	6	32
Overhead and other obstruction.....	—	32	1	25	—	36
Other causes.....	8	1,421	10	1,445	7	1,209
Totals.....	73	2,532	63	2,555	33	2,150
ALL OTHER ACCIDENTS						
Class of Person—	No.	No.	No.	No.	No.	No.
Stationmen.....	1	773	—	663	—	564
Shopmen.....	4	1,885	2	1,682	2	1,428
Trackmen.....	7	1,993	9	1,674	3	1,382
Other employees.....	3	659	2	570	—	526
Passengers.....	1	30	—	58	1	48
Others.....	12	128	5	106	9	96
Totals.....	28	5,468	18	4,763	15	4,044

Subsection 4.—The Canadian National Railway System*

In view of the interest in Canada's publicly owned railway, the Canadian National Railway System is given separate treatment in this Subsection. Its history is presented in a special article published in the 1955 Year Book at pp. 840-847. More detailed information than can be given here is obtainable from DBS annual report, *Canadian National Railways*.

Financial Statistics.—The original financial structure of the CNR and the steps taken through the Capital Revision Acts of 1937 and 1952 to alleviate the burden of interest debt undertaken by the Company on its formation in 1923 are described in the special article mentioned above. Briefly the Capital Revision Act of 1937 wrote off all loans that had been made to cover deficits and also unpaid interest on loans, and certain

* The Hudson Bay Railway is a direct responsibility of the Federal Government and has been operated by the CNR for the Government since Apr. 1, 1935; statistics relating to the operation of this line are not included in the data for the CNR.

loans made for the purpose of additions and betterments were converted to equity capital, relieving the CNR from paying fixed charges on this amount. Under the 1952 Capital Revision Act 50 p.c. of the Company's interest-bearing debt was changed to preferred stock on which, after settling income taxes, a dividend of 4 p.c. is paid on earnings. Also for a term of ten years ending Dec. 31, 1961 the Railway is not obliged to pay interest on \$100,000,000 of its long term debt. The Government is authorized to buy additional preferred stock annually in amounts related to the Company's gross revenues. As a consequence, the proportion of total capitalization represented by equity capital in shareholders' account was raised from 34.5 p.c. at Dec. 31, 1951 to 67.2 p.c. at Jan. 1, 1952, and the proportion of borrowed capital was correspondingly reduced.

12.—Capital Structure of the Canadian National Railway System as at Dec. 31, 1945-54

NOTE.—Information given in greater detail in DBS report, *Canadian National Railways*.

At Dec. 31—	Shareholders' Capital		Funded Debt Held by Public		Government Loans and Appropriations—Active Assets in Public Accounts	Totals
	Government of Canada Shareholders' Account	Capital Stock Held by Public	Guaranteed by Federal and Provincial Governments	Other		
	\$	\$	\$	\$	\$	\$
1945.....	777,326,528	4,643,040	528,275,246	44,904,751	690,973,594	2,046,123,159
1946.....	770,018,575	4,635,440	488,772,318	41,650,680	718,537,286	2,029,614,299
1947.....	774,195,901	4,570,940	538,759,177	44,100,584	689,470,349	2,051,096,951
1948.....	774,242,649	4,567,540	492,437,507	91,795,151	760,494,825	2,123,537,672
1949.....	774,448,716	4,560,290	539,706,744	85,159,176	743,661,162	2,147,536,088
1950.....	776,395,649	4,520,890	566,418,607	92,611,634	739,847,514	2,179,794,294
1951.....	776,395,649	4,518,890	518,396,607	96,800,428	857,573,774	2,253,685,348
1952.....	1,531,072,324	4,516,490	518,396,607	87,098,222	228,055,165	2,369,138,808
1953.....	1,552,050,067	4,514,490	513,977,391	75,834,299	342,140,048	2,488,516,295
1954.....	1,571,393,181	4,514,490	910,422,885	62,546,711	126,771,981	2,675,649,248

In Table 13, the assets of the Canadian National Railway System as at Dec. 31, 1954 are compared with those at the time of consolidation of the System.

13.—Assets of the Canadian National Railway System as at Dec. 31, 1922 and 1954

Account	Dec. 31, 1922	Dec. 31, 1954	Increase or Decrease
	\$	\$	\$
Investments.....	1,842,428,131	2,780,075,579	+937,647,448
Road and equipment.....	1,765,323,644	2,639,859,096	+874,535,452
Improvements on leased railway property.....	1,492,123	1,270,331	- 221,792
Sinking funds.....	4,629,855	—	+ 4,629,855
Deposits in lieu of mortgaged property sold.....	6,171,808	887,686	+ 5,284,122
Miscellaneous physical property.....	34,767,914	68,080,192	+ 33,312,278
Affiliated companies.....	24,253,323	69,283,238	+ 45,029,915
Other investments.....	5,789,464	695,036	+ 5,094,428
Current Assets.....	87,550,218	202,342,939	+114,792,721¹
Cash.....	14,651,422	46,008,522 ²	+ 31,357,100
Special deposits.....	6,139,435	14,599,180	+ 8,459,745
Loans and bills receivable.....	11,600	—	+ 11,600
Traffic and car service, balances receivable.....	2,528,622	—	+ 2,528,622
Net balances receivable from agents and conductors.....	5,386,673	23,776,201	+ 18,389,528
Miscellaneous accounts receivable.....	16,857,420	20,661,771	+ 3,804,351
Materials and supplies.....	41,408,999	86,325,914	+ 44,916,915
Interest and dividends receivable.....	377,003	65,213	+ 311,790
Rents receivable.....	112,269	—	+ 112,269
Other current assets.....	106,775	10,906,138	+ 10,799,363

¹ Decrease in current liabilities, \$7,561,446.

² Includes demand loans and deposits.

13.—Assets of the Canadian National Railway System as at Dec. 31, 1922 and 1954—concluded

Account	Dec. 31, 1922	Dec. 31, 1954	Increase or Decrease
Deferred Assets	12,325,297	127,037,860	+114,712,563
Working fund advances.....	166,847	688,929	+ 522,082
Insurance and other funds.....	352,488	15,000,000	+ 14,647,512
Pension contract fund.....	—	102,500,000	+102,500,000
Other deferred assets.....	11,805,962	8,848,931	- 2,957,031
Unadjusted Debits	15,697,557	17,623,230	+ 1,925,673
Rents and insurance premiums paid in advance.....	322,059	3,423,343	+ 3,101,284
Discount on capital stock.....	634,960	—	- 634,960
Discount on funded debt.....	1,919,635	7,116,755	+ 5,197,120
Other unadjusted debits.....	12,820,903	7,083,132	- 5,737,771
Grand Totals	1,958,031,203	3,127,079,608	+1,169,048,405

Operating Finances.—Gross revenue, operating expenditure and net revenue include only those from railway and commercial telegraph operations but the deficits are for the entire System, including the operating results of the Niagara, St. Catharines and Toronto Railway (electric) and other railways operated separately, hotels, commercial telegraphs, coastal steamships and all other outside operations.

14.—Gross Revenue, Operating Expenditure, Net Revenue, Fixed Charges and Deficits of the Canadian National Railway System¹ 1945-54

NOTE.—Figures for 1911-25 are given in the 1936 Year Book, p. 660; for 1926-39 in the 1942 Year Book, p. 590; and for 1940-44 in the 1951 edition, p. 731. Newfoundland is included from Apr. 1, 1949.

Year	Gross Operating Revenue	Operating Expenditure	Income Available for Fixed Charges	Total Fixed Charges	Net Income or Deficit ²	Cash Deficit or Surplus ³
	\$	\$	\$	\$	\$	\$
1945.....	433,773,394	355,294,048	73,521,185	49,009,507	Cr. 24,511,678	Cr. 24,756,130
1946.....	400,586,026	357,236,718	37,239,784	46,685,316	Dr. 9,445,532	Dr. 8,961,570
1947.....	438,197,980	397,122,607	29,330,757	45,925,891	" 16,595,134	" 15,885,194
1948.....	491,269,950	464,739,970	12,502,931	46,341,727	" 33,838,796	" 33,532,741
1949.....	500,723,386	478,501,660	6,152,649	48,631,896	" 42,479,247	" 42,043,027
1950.....	553,831,581	493,997,079	44,084,904	47,421,983	" 3,337,079	" 3,261,235
1951.....	624,834,120	580,150,221	31,722,489	48,176,558	" 16,454,069	" 15,031,996
1952.....	675,219,415	634,852,915	25,702,660	25,415,189	Cr. 287,471	Cr. 142,327
1953.....	696,622,451	659,049,086	29,238,623	29,376,160	Dr. 137,537	" 244,017
1954.....	640,637,280	626,465,374	7,574,821	32,527,264	" 24,952,443	Dr. 28,758,098

¹ Includes the Central Vermont Railway, Incorporated.

² Contributed by or paid to the Federal Government.

³ Includes appropriations for insurance fund.

Milage and Traffic.—At Dec. 31, 1954 main-track milage (exclusive of electric lines) of the Canadian National Railways (including lines in the United States and Newfoundland but exclusive of the Northern Alberta Railways and Toronto Terminals Railway lines controlled jointly by the Canadian National and the Canadian Pacific Railways) was 24,359 miles. Including the Thousand Islands Railway, 4·51 miles, controlled but operated separately, the total milage was 24,363·5. The grand total, including 72·9 miles of electric lines, was 24,436·4 miles.

15.—Train Traffic Statistics of the Canadian National Railways (Canadian and United States Lines) 1952-54

(Exclusive of electric lines)

Milage and Traffic	1952	1953	1954
Train Milage..... miles	75,075,190	71,832,250	66,007,017
Passenger trains.....	25,533,678	24,949,141	24,315,627
Freight trains.....	49,541,512	46,883,109	41,691,390
Passenger-Train Car Milage..... miles	235,607,328	232,400,747	223,407,059
Coaches and combination.....	71,032,668 ¹	67,478,330 ¹	61,520,399 ¹
Motor unit cars.....	969,111	1,021,566	1,047,101
Parlour, sleeping and dining cars.....	65,281,036	64,340,084	63,607,197
Baggage, mail, express, etc.....	98,324,513	99,560,767	97,232,362
Freight-Train Car Milage..... miles	2,034,249,150	1,987,320,004	1,811,359,472
Loaded freight.....	1,348,655,134	1,308,501,856	1,183,987,402
Empty freight.....	636,815,274	632,418,375	585,973,718
Caboose.....	48,778,742	46,399,773	41,398,352
Passenger Traffic—			
Passengers carried (earning revenue)..... No.	18,832,815	18,080,958	17,858,916
Passengers carried (earning revenue) one mile.....	1,635,201,983	1,538,832,219	1,471,708,931
Passenger-train miles per mile of road.....	1,056	1,033	1,007
Average passenger journey..... miles	86.83	85.11	82.41
Average amount received per passenger..... \$	2.57349	2.53948	2.45015
Average amount received per passenger mile.....	0.02964	0.02984	0.02973
Average passengers per train mile..... No.	64.04	61.68	60.53
Average passengers per car mile.....	12.75	12.40	12.53
Total passenger-train earnings per train mile..... \$	3.86	3.98	3.90
Total passenger-train revenue per mile of road..... \$	4,076.82	4,113.98	3,926.55
Freight Traffic—			
Revenue freight carried..... tons	90,053,919	86,523,327	79,338,230
Revenue freight carried one mile.....	38,430,494,637	36,677,980,252	32,881,706,496
Revenue freight carried one mile per mile of road.....	1,584,763	1,513,672	1,356,505
Total (all classes) freight carried one mile per mile of road.....	1,708,033	1,626,843	1,443,839
Average tons revenue freight per train mile..... No.	776	782	789
Average tons (all classes) freight per loaded car mile.....	30.64	30.03	29.46
Average hauls revenue freight..... miles	426.75	423.91	414.45
Freight revenue per train mile..... \$	10.83	11.81	12.06
Freight revenue per mile of road..... \$	22,187.81	22,921.32	20,816.40
Freight revenue per ton..... \$	5.96	6.40	6.34
Freight revenue per ton mile..... \$	0.01397	0.01501	0.01529

¹ Excludes work service.

Section 2.—Urban Transit Systems

The collection of statistical information on urban transportation systems is at present undergoing extensive reorganization. Such drastic changes have been made in recent years in the types of vehicles used for mass passenger movement in urban centres that the statistical series, which began with the financial and operating statistics of electric railways and later included their motor bus and trolley coach lines, has become inadequate.

The new series will cover all transit systems including electric railway, rapid transit or subway, motor bus, motor coach or trolley coach operation carrying passengers (and incidentally freight or express) in urban, suburban or interurban service. A transit system may mean any one of these operations or any combination of them. Table 16 gives currently available summary statistics for all urban transit systems. Tables 17 to 20 give the latest information on electric railway systems, continuing the series presented in previous editions of the Year Book until the new, more comprehensive series becomes available.

Urban Transit Statistics.—There were 4.2 p.c. fewer passengers carried on urban transit vehicles in 1955 than in 1954. The decrease occurred mainly in electric car systems. Vancouver and Winnipeg discontinued electric car operations in April and September 1955 respectively and Montreal, Toronto and Ottawa converted some routes from electric car

to trolley and motor bus operation. There were 35,147,070 passengers carried by the Toronto Subway in 1955, a figure included in the 398,439,820 electric car total for the year. Passenger revenue was down from \$120,238,281 in 1954 to \$120,143,866 in 1955 despite fare increases in Montreal, Vancouver, Winnipeg, Windsor and Saskatoon.

16.—Summary Statistics of Urban Transit Systems 1954 and 1955

Item		1954	1955
Passengers Carried	No.	1,264,434,239	1,211,577,619
Electric car.....	"	456,854,386 ¹	398,439,820 ¹
Trolley bus.....	"	241,920,385	241,401,062
Motor bus.....	"	563,869,403	568,010,451
Chartered.....	"	1,790,065	3,726,286
Vehicle-Miles Run	No.	211,643,384	209,786,992
Electric car.....	"	61,134,226 ²	53,951,724 ²
Trolley bus.....	"	36,879,180	38,003,904
Motor bus.....	"	112,608,880	115,960,648
Chartered.....	"	1,021,098	1,870,716
Fuel Consumed—			
Gasoline.....	gal.	19,389,124	17,696,431
Propane gas.....	"	4,317,224	352,229
Diesel oil.....	"		6,435,627
Revenue	\$	120,238,281	120,143,866

¹ Includes 27,690 passengers carried by the Toronto subway in 1954 and 35,147,070 passengers in 1955. ² Includes 4,734,443 miles run by the Toronto subway cars in 1954 and 5,597,500 miles in 1955.

Electric Railway Systems.—The statistics given here cover the urban and inter-urban operations of electric railway systems. Almost all the urban systems are now municipally owned, the largest privately owned system being the British Columbia Electric Railway Company; most of the interurban firms are controlled either by the Canadian National or Canadian Pacific Railways. The number of electric railways declines each year as motor and trolley buses replace electric cars. Of the 22 systems in service in 1953, six operated electric cars, motor buses and trolley buses; nine operated trolley buses and motor buses; three operated electric cars only; one operated electric cars and motor buses; one, trolley buses only; one, motor buses only; and one reported no electric cars, motor buses or trolley buses. The latter two perform switching operations for railways.

17.—Equipment of Electric Railways 1951-53

Equipment	1951	1952	1953	Equipment	1951	1952	1953
	No.	No.	No.		No.	No.	No.
Passenger Vehicles	5,545	5,581	5,602	Other Vehicles	574	590	661
Closed cars.....	2,399	2,307	2,212	Baggage, express and mail cars.....	12	11	10
Open cars.....	4	4	4	Freight cars.....	86	82	82
Combination passenger and baggage cars.....	5	5	5	Locomotives.....	54	55	56
Cars without electrical equipment.....	123	108	91	Snow ploughs.....	51	47	46
Motor buses.....	1,979	2,090	2,177	Sweepers.....	74	65	65
Trackless trolley buses.....	1,035	1,067	1,113	Trucks.....	139	153	221
				Miscellaneous.....	158	177	181

The financial statistics of electric railways given in Table 18 have been greatly affected by variations in traffic and by changes in mode of local transportation. When electric railways have ceased operation because of decline in traffic or have substituted other types

of rolling stock their figures have been dropped from the tabulation. Despite changing conditions however the gross revenue of electric railways has continued to rise in the postwar years. The ratio of expenses to receipts advanced from 86 p.c. in 1946 to 97 p.c. in 1953. Many systems have changed from private to public ownership in the past few years which accounts for much of the recorded decline in the value of stocks and the increase in funded debt.

18.—Financial Statistics of Electric Railways 1944-53

NOTE.—Figures for 1901-43 are given in the corresponding table of previous Year Books beginning with the 1926 edition.

Year	Capital Liability			Investment in Road and Equip- ment	Gross Earnings	Operating Expenses	Ratio of Ex- penses to Re- ceipts	Em- ployees	Salaries and Wages
	Stocks	Funded Debt	Total						
	\$	\$	\$	\$	\$	\$	p.c.	No.	\$
1944.....	37,540,432	142,364,766	179,905,198	202,666,204	84,730,173	58,202,151	68-69	19,034	36,845,152
1945.....	37,329,194	142,384,083	179,713,277	205,026,475	88,939,451	64,533,940	72-56	20,091	39,364,771
1946.....	35,656,763	132,042,089	167,698,852	203,537,797	87,515,721	75,550,821	86-33	21,700	45,675,363
1947.....	33,915,932	138,246,540	172,162,472	218,439,361	86,519,712	81,787,723	94-53	22,627	50,117,441
1948.....	28,138,481	140,692,280	168,830,761	217,385,299	89,310,215	88,024,727	98-56	22,593	55,268,083
1949.....	27,425,491	143,944,716	171,370,207	242,095,483	95,596,394	92,378,848	96-63	21,661	59,155,605
1950.....	27,252,391	159,192,587	186,444,978	223,224,556	91,034,058	89,414,380	98-22	21,869	57,645,574
1951.....	20,252,391	179,159,159	199,411,550	255,057,250	99,114,548	97,880,959	98-76	21,052	64,188,551
1952.....	5,535,795 ¹	147,980,382 ¹	153,516,177	260,037,852	104,028,691	101,110,712	97-20	20,268	67,252,025
1953.....	4,336,065	181,781,857	186,117,922	283,256,339	107,990,692	105,027,443	97-26	20,408	68,638,778

¹ Decrease from 1951 accounted for by the re-capitalization of the Winnipeg Electric Company; transit facilities of that Company were transferred to the Greater Winnipeg Transit Company.

In 1953 electric cars travelled 66,798,532 miles in passenger service, trackless trolley buses operated by electric railway companies travelled 34,801,515 miles and motor buses 61,176,376 miles. Although most of the urban centres in which transit services operate have greatly extended their populated areas in the postwar years, electric cars and buses travelled fewer passenger miles each year since 1948 and the number of fare passengers carried declined each year since 1946.

19.—Traffic Statistics of Electric Railways 1944-53

NOTE.—Figures for 1901-43 are given in the corresponding table of previous Year Books beginning with the 1933 edition.

Year	Miles of Road		Electric Car and Bus Mileage			Fare Passengers Carried ¹	Freight Carried ¹
	Total	With Double Track	Passenger	Other	Total		
	miles	miles	miles	miles	miles	No.	tons
1944.....	1,019-69	496-17	169,421,343	2,756,755	172,178,098	1,249,707,399	3,769,959
1945.....	1,015-54	488-30	175,498,520	2,777,976	178,276,496	1,316,571,540	3,639,989
1946.....	1,004-44	485-06	177,256,084	2,822,300	180,078,384	1,344,916,773	3,506,805
1947.....	895-25	436-95	180,204,812	2,808,252	183,013,064	1,323,723,782	3,655,278
1948.....	778-92	391-78	182,943,709	3,038,989	185,982,698	1,309,565,795	4,050,111
1949.....	719-31	356-61	173,849,096	3,048,146	176,897,242	1,240,558,812	3,702,016
1950.....	662-96	326-90	173,285,475	3,562,144	176,847,619	1,192,058,052	4,115,974
1951.....	595-38	293-87	167,316,921	3,646,069	170,962,990	1,133,393,935	4,479,404
1952.....	567-79	272-02	166,432,237	3,759,193	170,191,430	1,109,299,866	4,079,474
1953.....	552-49	261-81	164,871,341	3,593,002	168,464,343	1,076,979,055	3,968,772

¹ Includes passengers and freight carried on buses and trackless trolley buses operated by electric railways.

20.—Passengers, Employees and Others Killed or Injured on Electric Railways 1944-53

NOTE.—Figures for 1900-43 are given in the corresponding table of previous Year Books beginning with the 1926 edition.

Year	Passengers		Employees		Others		Totals	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
	No.	No.	No.	No.	No.	No.	No.	No.
1944.....	3	3,980	7	835	88	1,556	98	6,371
1945.....	2	4,092	3	944	104	1,592	109	6,628
1946.....	8	4,009	3	904	66	1,584	77	6,497
1947.....	2	4,181	4	910	71	1,469	77	6,560
1948.....	2	3,792	5	1,336	74	1,328	81	6,456
1949.....	1	3,688	1	766	63	1,239	65	5,693
1950.....	—	3,718	1	730	44	1,204	45	5,652
1951.....	—	3,392	2	650	42	998	44	5,040
1952.....	2	3,551	1	655	40	1,046	43	5,252
1953.....	—	3,322	2	650	31	941	33	4,913

The Toronto Underground Electric Railway.—Construction of Canada's first underground electric railway or subway commenced at Toronto in 1949 and the line was put into operation in March 1954. The route of the subway follows the general line of Yonge Street, a distance of about 4.5 miles from Front Street to Eglinton Avenue. Twelve stations are located along the line and a pedestrian tunnel links the Union Station and the Royal York Hotel with the subway. Subsurface sections of the subway are from six to 20 feet underground. Rapid-transit cars, 104 in number, each of 62 passenger capacity are used. The 500 foot platforms at all stations accommodate trains of up to eight cars in length which handle a peak load of 40,000 passengers an hour in each direction.

Section 3.—Express Companies

Express service is an expedited freight service on passenger trains, but express companies do not own the means of performing these services; railway facilities are used by virtue of contracts with the railway companies. Express companies in Canada have always operated in close co-operation with the railways.

Goods are sent by express for quick transit so that express rates do not generally compete with freight rates. The Dominion Express Company, in pursuance of its contract with the Canadian Pacific Railway, gave, in its first tariff, a rate of two and one-half times the maximum first class railway freight rate for the same goods carried the same distance. The majority of the contracts between express and railway companies for carrying express freight are on the basis of a percentage of the gross express revenue and the rates paid by the shipper are subject to the approval of the Board of Transport Commissioners. All express companies are organized under powers conferred by Federal Government legislation and their business consists in the expeditious shipment of valuable livestock and such perishable commodities as fresh fish, fruit, etc., the forwarding of parcels, and the issue of money orders, travellers cheques, letters of credit and other forms of financial paper.

Express Company Operations.—Four express organizations operate in Canada—three Canadian and one American. The Canadian Pacific Express Company, formerly the Dominion Express Company, is a subsidiary of the Canadian Pacific Railway Company and handles the express business on the railways and the inland and ocean steamship lines of the parent company. The express business of the Canadian National and Northern Alberta Railways is handled by departments of the respective railways. The Railway Express Agency, Incorporated, operates over the Canadian sections of United States railways and over the route from Skagway, Alaska, to points in Yukon Territory. No statistics are available on the volume of traffic carried by express because much of the traffic consists of parcels and small lots that would make statistical classification and measurement very difficult.

21.—Summary Statistics on the Operations of Express Companies 1945-54

NOTE.—Figures for 1911-44 are given in the corresponding table of previous Year Books beginning with the 1927-28 edition.

Year or Company	Milages Operated ¹	Gross Earnings	Operating Expenditure	Express Privileges ²	Net Operating Revenue
	No.	\$	\$	\$	\$
1945.....	50,938	37,171,862	20,040,339	16,711,647	419,876
1946.....	51,365	39,260,553	22,670,616	16,841,229	Dr. 251,292
1947.....	51,341	42,314,758	25,770,190	17,650,061	Dr. 1,105,493
1948.....	51,840	46,809,112	30,398,053	18,785,988	Dr. 2,374,929
1949.....	54,806	51,966,290	32,385,223	21,226,817	Dr. 1,645,750
1950.....	55,581	52,017,492	32,881,689	21,355,956	Dr. 2,220,153
1951.....	57,355	60,423,503	38,374,128	21,037,164	1,012,211
1952.....	57,335	70,185,114	44,744,018	24,428,739	1,012,357
1953.....	55,805	74,296,948	49,569,842	23,584,806	1,142,300
1954.....	68,373 ³	70,039,054	48,167,243	20,753,503	1,118,308
1954					
Canadian National Express.....	42,839 ³	36,769,693	25,606,614	10,519,706	643,373
Canadian Pacific Express.....	21,409	31,208,263	21,461,660	9,320,113	426,490
Northern Alberta Railways.....	928	645,712	320,036	289,660	36,016
Railway Express Agency, Inc.....	3,197	1,415,386	778,933	624,024	12,429
Totals, 1954.....	68,373	70,039,054	48,167,243	20,753,503	1,118,308

¹ Over railways, boat lines and motor carrier and aircraft routes. ² Amounts paid by express companies to the carriers, i.e., railways, steamship lines, etc., for transporting express matter. ³ 12,290 aircraft miles were reported by the Canadian National Express.

22.—Business Transacted by Express Companies in Financial Paper 1950-54

Item	1950	1951	1952	1953	1954
	\$	\$	\$	\$	\$
Money orders, domestic and foreign.....	121,476,102	137,215,925	134,870,537	134,996,758	130,807,463
Travellers cheques, domestic and foreign	9,242,789	7,753,328	7,332,881	7,589,928	7,788,302
C.O.D. cheques.....	21,292,175	24,186,587	23,826,544	22,144,909	20,966,806
Telegraphic transfers.....	153,140	191,188	255,243	274,705	214,475
Totals.....	152,164,206	169,347,028	166,285,205	165,006,300	159,777,046

23.—Employees, Salaries, Wages and Commissions of Express Companies 1945-54

Year	Full Time Employees	Salaries and Wages ¹	Commissions Paid	Year	Full Time Employees	Salaries and Wages ¹	Commissions Paid
	No.	\$	\$		No.	\$	\$
1945.....	7,160	13,945,167	1,846,884	1950.....	8,974	24,195,490	2,177,933
1946.....	7,430	16,060,439	1,975,856	1951.....	9,610	28,607,463	2,443,341
1947.....	8,017	18,308,793	1,995,947	1952.....	10,849	32,503,058	2,689,830
1948.....	8,525	22,212,249	2,157,489	1953.....	12,119	37,413,060	2,795,766
1949.....	8,809	23,621,322	2,283,425	1954.....	11,450 ²	35,882,288	2,691,440

¹Includes wages paid to part time employees.

² Includes part time employees.

PART III.—ROAD TRANSPORTATION*

In this Part of the Chapter, highways and motor vehicles are treated as related features of transportation. Following an introductory section which summarizes provincial regulations regarding motor vehicles and motor traffic, the entire subject of road transportation is dealt with under the headings of roads and highways and motor vehicles.

Section 1.—Provincial Motor Vehicle and Traffic Regulations†

NOTE.—It is obviously impossible to include here the great mass of detailed regulations in force in each province and territory; only the more important general information is given. The sources of information for detailed regulations for specific provinces and territories are given at pp. 809-810.

General.—The registration of motor vehicles and the regulation of motor vehicle traffic lies within the legislative jurisdiction of the provincial and territorial governments. Regulations that are common to all provinces and territories are summarized under the following headings:—

Operators' Licences.—The operator of a motor vehicle must be over a specified age, usually 16 years (17 in Newfoundland and Quebec), and must carry a licence, obtainable in most provinces only after prescribed qualification tests and renewable annually. Special licences are required for chauffeurs in all provinces except Newfoundland and in some jurisdictions special licences are also granted to those who have not reached the specified age.

Motor Vehicle Regulations.—In general all motor vehicles and trailers must be registered annually, with the payment of specified fees, and must carry two registration plates, one in the front and one on the back of the vehicle (one only for the back in the case of trailers). In most provinces in event of sale the registration plates stay with the car but in Manitoba the plates are retained by the owner. A change of ownership of the vehicle must be recorded with the registration authority. However exception from registration is granted for a specified period (usually at least 90 days) in any year to visitors' private vehicles registered in another Province or a State that grants reciprocal treatment. Further regulations require a safe standard of efficiency in the mechanism of the vehicle and of its brakes and stipulate that equipment include non-glare headlights, a proper rear light, a satisfactory locking device, a muffler, a windshield wiper, and a rear-vision mirror.

Traffic Regulations.—In all provinces and territories, vehicles keep to the right hand side of the road. Everywhere motorists are required to observe traffic signs, lights, etc., placed at strategic points on highways and roads. Speed limits, usually of 50 miles an hour (60 in Quebec and Alberta; in Manitoba 60 in daytime and 50 at night), are in effect; slower speeds are always required in cities, towns and villages, in passing schools and public playgrounds, at road intersections, railway crossings, or at other places or times where the view of the highway for a safe distance ahead is in any way obscured. Motor vehicles must not pass a tram that has stopped to take on or discharge passengers, except where safety zones are provided. Accidents resulting in personal injury or property damage must be reported to a provincial or municipal police officer and a driver involved must not leave the scene of an accident until he has rendered all possible aid and disclosed his name to the injured party.

Penalties.—Penalties ascend in scale from small fines for minor infractions of any of the regulations to suspension of the operator's driving permit, impounding of the car, or imprisonment for serious infractions, recklessness, driving without an operator's licence, and especially for attempting to operate a motor vehicle while intoxicated.

Safety Responsibility Legislation.—Each province of Canada has enacted legislation under this heading (sometimes referred to as Financial Responsibility Legislation). In general these laws provide for the automatic suspension of the driver's licence and motor vehicle permit of a person convicted of an offence arising out of a motor vehicle accident,

* Except as otherwise indicated, the material in this Part has been revised in the Public Finance and Transportation Division, Dominion Bureau of Statistics.

† The information in this Section has been revised from material provided by the officials in charge of the administration of motor vehicle and traffic Acts and Regulations in the individual provinces and territories.

or a person involved directly or indirectly in an accident who is not covered for third-party insurance at the time of the accident. The suspension remains effective until any penalty or judgment has been satisfied and proof of financial responsibility for the future is filed.

Although Safety Responsibility Legislation has not been enacted in either the Yukon Territory or the Northwest Territories, the Motor Vehicle Ordinances of the two Territories require the owner of a motor vehicle to submit evidence of stipulated insurance coverage on such vehicle before he can obtain registration.

Unsatisfied Judgment Funds.—In recent years a new type of motor vehicle legislation has been enacted in all provinces except Quebec and Saskatchewan. This has usually taken the form of an amendment to the motor vehicle laws of the province and provides for the establishment of an Unsatisfied Judgment Fund, out of which are paid judgments awarded for damages arising out of motor vehicle accidents in the province which cannot be collected in the ordinary process of law. The Fund is created by the collection annually of an Unsatisfied Judgment Fund fee from the registered owner of every motor vehicle or from every person to whom a driver's licence is issued, except in British Columbia where the Fund is maintained by insurance companies. This fee does not exceed \$1 per annum. A feature of this legislation which is contained in some provincial statutes provides for the payment of judgments in the so-called 'hit and run' accidents. When these occur, if neither the owner nor the driver can be identified, action may be taken against the Registrar of Motor Vehicles; any judgment secured against the Registrar is paid out of the Fund. All of these laws contain a provision limiting the amount that can be paid out of the Fund on one judgment. In all provinces except Manitoba the limits are \$5,000 for one person, \$10,000 for two or more persons injured in one accident and \$1,000 for property damage. In Manitoba the legal limits for third-party liability were increased in 1955 to \$10,000, \$20,000 and \$1,000 respectively. For 'hit and run' accidents payments are made for personal injuries or death only.

Sources of information for provincial motor vehicle and traffic regulations:—

Newfoundland

Administration.—Deputy Minister of Public Works, St. John's.

Legislation.—The Highway Traffic Act 1951, as amended.

Prince Edward Island

Administration.—The Provincial Secretary, Charlottetown.

Legislation.—The Highway Traffic Act (R.S.P.E.I. 1951, c. 73).

Nova Scotia

Administration.—Motor Vehicle Branch, Department of Highways, Halifax.

Legislation.—The Motor Vehicle Act (1954, c. 184) as amended, and the Motor Carrier Act (R.S.N.S. 1923, c. 78) as amended.

New Brunswick

Administration.—Motor Vehicle Division, Provincial Tax Branch, Department of Provincial Secretary-Treasurer, Fredericton.

Legislation.—The Motor Vehicle Act (R.S.N.B. 1951, c. 73) as amended.

Quebec

Administration.—Motor Vehicle Service, Provincial Revenue Offices, Finance Department, Parliament Bldgs., Quebec.

Legislation.—The Motor Vehicles Act (R.S.Q. 1941, c. 142) as amended.

Ontario

Administration.—Motor Vehicles Branch, Department of Highways, Toronto.

Legislation.—The Highway Traffic Act (R.S.O. 1950, c. 167), the Public Vehicle Act (R.S.O. 1950, c. 322) and the Public Commercial Vehicle Act (R.S.O. 1950, c. 304).

Manitoba

Administration.—Minister of Public Utilities, Winnipeg.

Legislation.—The Highway Traffic Act (R.S.M. 1954, c. 112) as amended.

Saskatchewan

Administration.—Treasury Department, Highway Traffic Board, Revenue Building, Regina.

Legislation.—The Vehicles Act.

Alberta

Administration.—Motor Vehicle Branch, Department of Highways, Edmonton.

Legislation.—The Vehicles and Highway Traffic Act (R.S.A. 1942, c. 275) as amended, the Motor Vehicles Accident Indemnity Act (1947, c. 11) as amended, the Public Service Vehicles Act (R.S.A. 1942, c. 276), and Rules and Regulations. The Vehicles and Highway Traffic Act and Motor Vehicle Accident Indemnity Act are administered by the Motor Vehicle Branch, Department of Highways.

British Columbia

Administration and Legislation.—Enforcement of the Motor Vehicle Act, the Highway Act and the Motor Carrier Act is vested in the Royal Canadian Mounted Police and the various municipal police forces, while the Highway Act is administered by the Minister of Public Works, the Motor Carrier Act by the Public Utilities Commission, and the Motor Vehicle Act by the Superintendent of Motor Vehicles, Victoria, B.C.

Yukon Territory

Administration.—Commissioner of the Yukon Territory, Whitehorse, Y.T. Information regarding regulations may also be obtained from the Northern Administration and Lands Branch, Department of Northern Affairs and National Resources, Ottawa.

Legislation.—The Motor Vehicle Ordinance (1952, First Session, c. 8) as amended.

Northwest Territories

Administration.—Commissioner of the Northwest Territories. Address communications to the Director, Northern Administration and Lands Branch, Department of Northern Affairs and National Resources, Ottawa.

Legislation.—The Motor Vehicles Ordinance (1950, c. 16) as amended.

Section 2.—Highways and Roads

The populated sections of Canada are well supplied with highways and roads. Access to outlying settlements is provided to some extent by roads built by logging, pulp and paper and mining companies, although these are not generally available for public travel. At the same time great areas of Newfoundland, Quebec, Ontario, the Prairie Provinces, British Columbia and the Territories are very sparsely settled and are virtually without roads of any kind.

As at Mar. 31, 1954 the total mileage of highway and rural roads in Canada was 524,055. This mileage includes all roads under provincial jurisdiction, federal roads including those in the National Parks and the Yukon and Northwest Territories, and local roads under municipal jurisdiction other than the milages in cities and towns. The latter are given separately under the heading "Urban Streets" p. 813.

The 1954 figures are not strictly comparable with those for Mar. 31, 1953; the total of 517,809 miles for the earlier year is divided as follows: portland cement concrete, 1,841; bituminous pavement, 14,820; bituminous surface, 14,070; gravel and crushed stone, 160,265; earth roads, 326,812. New road surveys in Newfoundland and Prince Edward Island and a

reclassification in Manitoba resulted in a considerable decrease in gravelled milages in those provinces in 1954 and therefore in the total for Canada. The changes also contributed to an increase of 4,627 miles in the length of earth roads. The Prince Edward Island survey brought a decrease in reported mileage in that Province from 3,716 to 3,191 miles. Alberta mileage dropped by 227 to 85,489 miles and the Territories remained unchanged. All other provinces reported increases during the year. Federal roads in the ten provinces, including those within federal lands such as the National Parks and the Federal District Commission driveways around Ottawa, measured 1,971 miles including 729 in the North West Highway System of British Columbia. In addition the 2,128 miles of roads in the Yukon and Northwest Territories are all classed as federal roads.

1.—Milage of each Type of Road by Province as at Mar. 31, 1954

NOTE.—The figures for Canada are the sums of the milages so reported. Urban streets are not included.

Classification	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	miles	miles	miles	miles	miles	miles	miles	miles	miles	miles	miles	miles
Surfaced Road...	2,180	1,559	8,742	14,096	30,175	63,756	4,720	22,520	30,273	12,877	1,718	192,616
Portland cement concrete.....	—	4	7	—	295	1,011	106	—	—	32	—	1,455
Bituminous pavement.....	33	—	34	1,411	6,841	5,304	—	—	—	2,021	4	15,648
Bituminous surface.....	97	334	1,638	1,035	1,209	5,874	1,531	1,333	2,119	1,048	—	16,218
Gravel and crushed stone...	2,050	1,221	7,063	11,650 ¹	21,830	51,567	3,083	21,187 ²	28,154	9,776	1,714	159,295
Non-surfaced Road.....	4,400	1,632	6,480	—	12,744	10,454	87,645	141,601	55,216	10,857	410	331,439
Improved earth.....	460	1,632	2,934	—	12,744	10,454	15,610 ³	40,422 ⁴	26,544 ⁵	9,298	319	331,439
Other earth roads	3,940	—	3,546	—	—	—	72,035 ³	101,179 ⁴	28,672 ⁵	1,559	91	—
Totals.....	6,580	3,191	15,222	14,096	42,919	74,210	92,365	164,121	85,489	23,734	2,128	524,055

¹ Includes improved earth roads. ² Includes "long bridges". ³ Includes milages of roads gravelled but details not available. ⁴ Does not include surveyed road allowances not in use. ⁵ Includes all road allowances.

Higher levels of expenditure during the year ended Mar. 31, 1955 brought total expenditures on highways, bridges, etc., in the five year period Apr. 1, 1950 to Mar. 31, 1955 to more than \$1,800,000,000 of which \$1,100,000,000 was on new construction and major reconstruction work. In addition during the same period over \$365,000,000 was spent on roads, bridges, etc., in rural municipalities, more than \$213,000,000 of it on new construction and major improvements. The length of surfaced highways increased from 166,899 miles at Mar. 31, 1951 to 192,616 miles at the end of March 1955 while the length of paved and bituminous surfaces increased by 34.3 p.c. in the five year period. Surfaced roads accounted for 36.8 p.c. of all highways open to traffic at the end of Mar. 31, 1955 and paved highways represented 6.4 p.c. of the total.

Expenditures on roads and highways outside urban areas during the year ended Mar. 31, 1955 were \$429,472,008, about 8.2 p.c. higher than in the previous fiscal year when the outlay was \$397,068,159 and 6.2 p.c. higher than the previous peak year of 1952-53 when \$404,291,421 was expended. This rise was partly accounted for by the inclusion in the Saskatchewan statistics of expenditures in local improvement districts, rural municipalities, villages and towns (less than 1,000 population) not previously reported. Construction work accounted for \$229,087,011 of the total in 1954-55 whereas \$234,334,349 was spent on this phase of road work in 1953-54. Maintenance charges rose 19.3 p.c. from \$149,844,221 to \$178,832,011. The ten provincial governments spent \$355,454,863 in 1954-55 compared with \$341,501,941 in 1953-54 and federal expenditures were up from \$26,759,571 to \$32,775,800.

**2.—Construction, Maintenance and General Expenditure on Rural Roads,
Bridges and Ferries by Province, Years Ended Mar. 31, 1952-55**

Item and Province or Territory	1952	1953	1954	1955
	\$	\$	\$	\$
Construction¹	192,810,362	244,614,842	234,334,349	229,087,011
Newfoundland.....	4,555,303	2,954,526	4,240,406	7,921,808
Prince Edward Island.....	2,130,750	2,221,375	1,788,675	2,795,081
Nova Scotia.....	9,267,598	5,744,539	7,584,863	6,190,534
New Brunswick.....	6,039,885	6,376,795	6,953,831	6,867,169
Quebec.....	56,995,225	73,769,845	57,945,075	58,153,492
Ontario.....	55,768,891	69,779,100	64,807,939	56,762,275
Manitoba.....	9,347,887	11,627,268	12,162,353	12,389,735
Saskatchewan.....	9,065,930	13,325,620	13,860,596	13,390,784
Alberta.....	21,301,524	34,211,782	40,105,154	40,240,306
British Columbia.....	16,298,760	23,170,263	23,433,190	22,128,045
Yukon and N.W.T.....	595,600	508,149	739,744	1,010,545
Maintenance	127,790,354	147,719,040	149,844,221	178,832,011
Newfoundland.....	1,646,977	1,893,130	2,267,335	2,696,832
Prince Edward Island.....	1,001,335	1,077,210	1,219,612	1,159,173
Nova Scotia.....	6,880,574	8,202,264	9,563,259	10,376,255
New Brunswick.....	7,083,580	8,618,951	8,235,747	10,281,339
Quebec.....	25,735,365	30,628,015	31,184,047	35,195,468
Ontario.....	49,547,029	58,105,684	52,667,538	57,464,175
Manitoba.....	2,097,872	2,251,555	2,648,689	3,314,421
Saskatchewan.....	3,857,513	4,503,343	4,939,826	15,517,577
Alberta.....	14,390,843	15,184,161	18,487,280	22,744,792
British Columbia.....	12,498,943	15,192,109	14,558,602	15,493,701
Yukon and N.W.T.....	3,050,323	2,062,618	4,072,286	4,588,278
Administration and General²	13,983,546	11,957,539	12,889,589	21,552,986
Newfoundland.....	233,871	230,943	279,402	347,610
Prince Edward Island.....	68,988	69,432	73,115	73,268
Nova Scotia.....	692,893	968,344	702,148	798,905
New Brunswick.....	242,682	276,312	307,994	416,716
Quebec.....	2,436,853	2,602,009	2,727,669	3,383,708
Ontario.....	4,583,869	4,636,933	5,027,809	10,958,835
Manitoba.....	685,479	738,036	787,645	801,103
Saskatchewan.....	282,334	384,262	433,990	1,251,078
Alberta.....	89,287 ³	86,649 ³	75,647 ³	1,259,707
British Columbia.....	4,353,599	1,654,696	1,971,234	1,805,678
Yukon and N.W.T.....	31,039	11,693	13,102	25,476
Totals	334,584,262	404,291,421	397,068,159	429,472,008
Distribution of All Expenditure—				
Federal	21,667,085	25,034,650	26,759,571	32,775,800
Provincial	287,934,225	350,248,566	341,501,941	355,454,863
Municipal	23,288,598	27,721,288	27,505,913	37,173,083
Other	1,694,354	1,286,917	1,300,734	4,068,262

¹ Includes payments from railways and contributions from the Railway Grade Crossing Fund toward elimination of grade crossings, etc., amounting to \$1,443,009 in 1951-52, \$925,580 in 1952-53, \$712,523 in 1953-54 and \$1,237,237 in 1954-55. ² Includes federal administrative costs re Trans-Canada Highway amounting to \$282,652 in 1951-52, \$298,230 in 1952-53, \$399,834 in 1953-54 and \$431,002 in 1954-55. ³ Federal administrative costs only.

The Trans-Canada Highway System.—An outline of the Agreement on and specifications and construction of the federal-provincial Trans-Canada Highway and a map showing the proposed route in the provinces participating is given in the 1951 Year Book, pp. 631-634. The road will be a hard-surfaced two lane highway, 22 to 24 feet in width, with ample shoulder widths, bridge clearances and sight distances, low gradients and curvature, and a load-bearing capacity of nine tons for one axle. Railway grade crossings will be eliminated wherever possible. Eight provinces entered into this Agreement with the Federal Government in 1950 and Nova Scotia became party to it in 1952. The Highway in these nine provinces has a length of 4,580 miles, divided as follows: Newfoundland 610 miles; Prince Edward Island 74; Nova Scotia 310; New Brunswick 388;

Ontario 1,412; Manitoba 305; Saskatchewan 414; Alberta 292; British Columbia 692; and the National Parks 83. Quebec, while not co-operating with the Federal Government on a financial basis, is still providing a highway linking the two ends of the Trans-Canada route in Ontario and New Brunswick.

Contractual commitments for the nine participating provinces with respect to new construction on the Highway during the period Dec. 9, 1949 to Mar. 31, 1955 amounted to \$179,096,584 of which the Federal Government's share was 50 p.c. or \$89,548,291. Federal payments to the provinces during this period for prior, interim and new construction totalled \$65,462,051. On-site labour expended on the Highway up to Mar. 31, 1955 amounted to 3,426,801 eight-hour man-days of employment; off-site employment required for the provision of necessary materials and services is estimated at 5,825,562 man-days. The Highway through the National Parks is being constructed with Federal Government funds and the amount of \$5,500,000 was allotted by Parliament for that purpose for the year ended Mar. 31, 1956.

By August 1955 contracts for 1,835 miles of grading had been approved and the equivalent of 1,554 miles built, contracts for base-course and paving had been approved for 1,357 miles and the equivalent of 1,167 miles completed, and 117 bridges, overpasses and other structures having over 20 foot spans had been completed.

Urban Streets.*—Statistics of streets, sidewalks, bridges and culverts in cities and towns have been collected since 1935. The smaller municipalities are not included but these do not incur much expense for street construction and maintenance and their inclusion would add little to the total. In the year ended Mar. 31, 1954, 317 municipalities reported 15,909 miles of streets, 4,709 miles of which were bituminous pavement, 804 miles concrete pavement, 3,845 miles bituminous surface, 3,689 miles gravel and crushed stone and 72 miles other surfaces. Thus the total length of surfaced street was 13,119 miles and the remainder was earth road. Expenditures on urban streets in 1954 by 317 municipalities amounted to \$93,045,185 as compared with \$82,981,153 spent by 303 municipalities in the previous year. The 13 cities reporting outlays of over \$1,000,000 in the later year accounted for 57.3 p.c. of the total expenditure. The metropolitan city of Toronto alone spent \$6,300,000 or 5.8 p.c. of the total. The major development in urban spending in 1954 was the assumption of responsibility for major thoroughfares in the Toronto area by the Municipality of Metropolitan Toronto whose principal accomplishment during the year was the resurfacing of Yonge Street at a cost of \$1,200,000.

Section 3.—Motor Vehicles

Registration.—Automobiles were registered in Canada for the first time in 1904. Ontario was the only province to issue licences in that year. New Brunswick began registering cars in 1905; Quebec, Saskatchewan and Alberta in 1906; British Columbia in 1907; Manitoba in 1908; Nova Scotia in 1909; Prince Edward Island in 1913; and Yukon Territory in 1914.

In 1905 only 565 motor vehicles were registered in Canada but by 1915 the number had risen to 95,284 and by the end of the next decade to 724,048. With the exception of 1931-33 an annual increase was in evidence until 1941 when 1,572,784 motor vehicles were registered. The number of commercial vehicles continued to increase during the war years but a considerable decline was shown in passenger cars because of the restrictions on manufacture and the rationing of tires and gasoline. However postwar recovery

*Additional information on urban streets is given in DBS annual report, *Highway Statistics*.

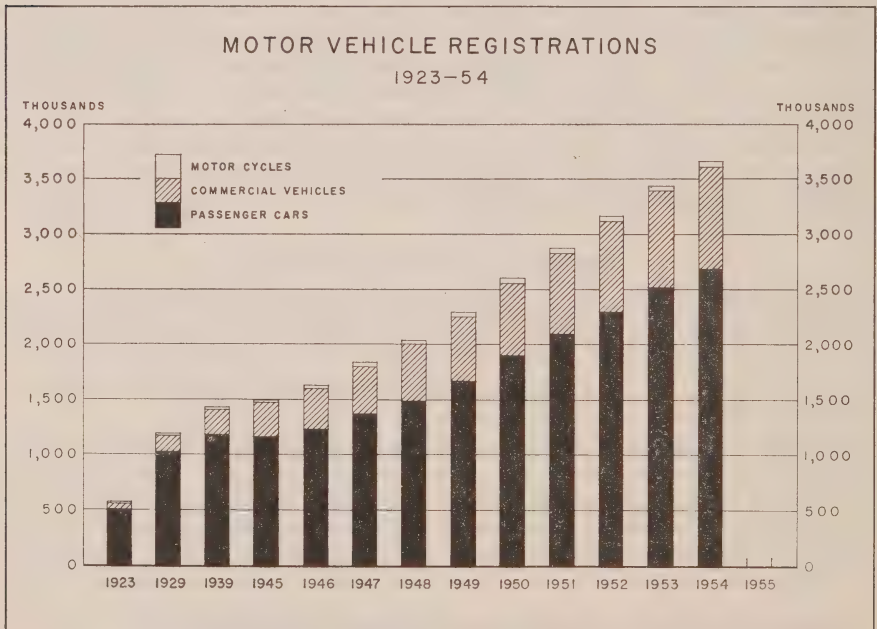
was rapid and registrations have risen steadily to a 1954 total of 3,644,589, including 2,688,465 passenger cars and taxis, 908,599 trucks and miscellaneous vehicles, 9,860 buses and 37,665 motorcycles.

3.—Motor Vehicles Registered by Province 1945-54

NOTE.—Registrations given here include passenger cars, trucks, buses, motorcycles, service cars, etc., but not trailers or dealer licences. Figures for 1904-35 are given in the 1937 Year Book, p. 668, and those for 1936-44 in the 1948-49 edition, p. 707.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total ¹
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1945.....	...	8,835	56,699	41,577	228,681	662,719	92,758	140,257	130,153	134,788	1,497,081
1946.....	...	9,192	62,660	44,654	255,172	711,106	101,090	148,206	138,868	150,234	1,622,463
1947.....	...	9,948	70,300	51,589	296,547	800,058	112,149	158,512	155,386	179,684	1,835,959
1948.....	...	11,290	76,319	62,366	335,953	874,933	128,000	167,515	173,950	202,126	2,034,943
1949.....	13,981	13,211	83,443	67,280	384,733	970,137	139,836	185,027	200,428	230,008	2,290,628
1950.....	16,375	15,383	94,743	74,415	433,701	1,104,080	157,788	199,866	230,624	270,312	2,600,511
1951.....	20,058	16,896	105,262	83,023	500,729	1,205,098	171,265	215,450	259,841	291,417	2,872,420
1952.....	23,630	18,717	114,982	89,839	574,974	1,291,753	187,881	237,014	291,469	321,482	3,155,997
1953.....	29,576	20,286	129,564	93,914	617,855	1,406,119	203,652	257,504	318,812	348,830	3,430,672
1954.....	34,423	20,848	133,087	99,058	674,114	1,489,980	210,471	267,373	338,541	371,711	3,644,589

¹ Includes registrations in the Yukon and Northwest Territories.



4.—Types of Motor Vehicles Registered by Province 1953 and 1954

Year and Province or Territory	Passenger Cars ¹	Commercial Cars, Trucks, etc. ²	Buses	Motor-cycles	Total
	No.	No.	No.	No.	No.
1953					
Newfoundland.....	20,509	8,569	200	298	29,576
Prince Edward Island.....	12,218	7,932	15	121	20,286
Nova Scotia.....	88,985	39,231	*	1,348	129,564
New Brunswick.....	63,041	29,249	431	1,193	93,914
Quebec.....	440,720	158,595	3,464	15,076	617,855
Ontario.....	1,117,175	271,581	4,049 ⁴	13,314	1,406,119
Manitoba.....	145,052	56,648	190	1,762	203,652
Saskatchewan.....	157,942	98,517	120	925	257,504
Alberta.....	207,402	108,625	479	2,306	318,812
British Columbia.....	258,940	86,065	*	3,825	348,830
Yukon and N.W.T.....	1,770	2,761	20	9	4,560
Canada, 1953.....	2,513,754	867,773	8,968	40,177	3,430,672
1954					
Newfoundland.....	24,000	9,920	188	315	34,423
Prince Edward Island.....	12,551	8,143	14	140	20,848
Nova Scotia.....	90,068	41,818	*	1,201	133,087
New Brunswick.....	67,624	29,970	443	1,021	99,058
Quebec.....	490,819	164,981	3,611	14,703	674,114
Ontario.....	1,187,725	285,019	4,782 ⁴	12,454	1,489,980
Manitoba.....	151,915	56,794	185	1,577	210,471
Saskatchewan.....	162,980	103,642	109	642	267,373
Alberta.....	222,305	113,872	511	1,853	338,541
British Columbia.....	276,161	91,806	*	3,744	371,711
Yukon and N.W.T.....	2,317	2,634	17	15	4,983
Canada, 1954.....	2,688,465	908,599	9,860	37,665	3,644,529

¹ Includes taxis.
buses.² Includes service cars, tractors, etc.³ Included with trucks.⁴ Includes trolley

Apparent Consumption of Automobiles.—The apparent consumption of automobiles in Canada in any year is computed by deducting the number exported from the sum of the production and imports. Statistics regarding retail sales and the financing of motor vehicle sales in Canada are given in Chapter XXI, Domestic Trade.

5.—Apparent Supply of New Automobiles 1945-54

Year	Cars Made for Sale in Canada ¹		Car Imports		Re-exports of Imported Cars		Apparent Supply	
	Pas-senger	Com-mercial ²	Pas-senger	Com-mercial	Pas-senger	Com-mercial	Pas-senger	Com-mercial
	No.	No.	No.	No.	No.	No.	No.	No.
1945.....	1,866	47,459	236	1,855	3	19	2,099	49,295
1946.....	63,501	41,318	18,642	3,600	6	72	82,137	44,846
1947.....	128,243	63,152	35,570	7,293	26	4	163,787	70,441
1948.....	135,316	73,582	17,037	3,575	17	4	152,336	77,153
1949.....	177,060	85,715	35,293	3,404	32	8	212,321	89,111
1950.....	259,481	96,826	81,722	6,806	62	20	341,141	103,612
1951.....	243,155	105,547	42,631	5,703	2,866	11	282,920	111,239
1952.....	245,443	112,485	35,665	4,328	999	11	280,109	116,802
1953.....	319,937	100,772	53,179	5,296	44	3	373,072	106,065
1954.....	267,452	59,666	38,509	4,973	84	25	305,877	64,614

¹ Factory shipments since 1952.² Includes Armed Forces vehicles.

Provincial Government Revenue from Motor Vehicles.—The taxation of motor vehicles, garages, drivers, chauffeurs, etc., is an important source of provincial government income. In every province licences or permits duly issued by the provincial authorities are required for motor vehicles of all kinds, trailers, operators or drivers, paid chauffeurs, dealers, garages and gasoline and service stations. In 1954 the average cost per motor vehicle for operating taxes and licences was almost \$90. Lower gasoline tax rates in the five provinces from Ontario westward brought the averages for those provinces below the national average. Present gasoline tax rates range from nine cents per gallon in Manitoba to 17 cents in Newfoundland and Nova Scotia.

The more important sources from which provincial revenue from motor vehicles is derived are shown in Table 6. Federal Government revenue from import duties, excise and sales taxes are given in Chapter XXIV, Public Finance.

6.—Provincial Revenue from the Registration and Operation of Motor Vehicles, Years Ended Mar. 31, 1955

Province or Territory	Passenger Automobile Licences	Truck, Bus, Trailer and other Vehicle Licences	Motorcycle Licences	Chauffeur, Driver and Dealer Licences	Public Service Vehicle Tax	Gasoline Tax	Total ¹
	\$	\$	\$	\$	\$	\$	\$
Newfoundland.....	407,626	501,577	2,630	132,793	2	2,598,547	3,643,173
P. E. Island.....	213,338	211,590	534	55,600	3,914	1,300,186	1,785,162
Nova Scotia.....	1,722,282	1,765,253	2	310,066	74,630	10,314,084	14,186,315
New Brunswick.....	1,346,839	1,693,285	5,891	239,227	3	8,780,183	12,065,425
Quebec.....	11,362,962	10,175,730	39,698	2,063,678	730,487	59,702,807	84,075,362
Ontario.....	11,548,904	12,771,875	24,101	2,122,779	1,826,625	92,657,841	120,952,125
Manitoba.....	2,327,153	1,445,584	6,971	84,716	460,100	8,984,172	13,308,696
Saskatchewan.....	2,488,424	2,330,069	3,386	367,918	201,286	14,470,247	19,861,330
Alberta.....	3,022,235	3,111,037	6,017	545,544	2,370,364	18,576,963	27,632,160
British Columbia.....	5,444,969	3,297,511	17,045	345,875	415,751	18,107,275	27,628,426
Yukon and N.W.T.....	28,984	31,176	39	17,188	32,543	209,900	319,830
Totals.....	39,913,716	37,334,687	106,312	6,285,384	6,115,700	235,702,205	325,458,004

¹ Includes other items not shown such as transfer of motor vehicles, garage and service station licences, and fines for infractions of motor vehicle laws. ² Included with trucks. ³ Included with other motor vehicles.

Sales of Gasoline.—'Gasoline', under the provincial Acts, is considered to include all petroleum oils used as fuel in internal combustion engines, as well as propane gas which is being used to an increasing extent in motor buses.

7.—Sales of Gasoline by Province 1950-54

Province	1950	1951	1952	1953	1954
	gal.	gal.	gal.	gal.	gal.
Newfoundland.....	1	1	13,820,200	16,504,200	18,818,942
Prince Edward Island.....	9,085,340	10,245,817	10,832,264	12,388,599	12,782,733
Nova Scotia.....	61,348,662	65,776,919	69,174,476	75,772,354	80,518,367
New Brunswick.....	58,814,989	63,615,057	67,361,022	77,108,360	78,065,848
Quebec.....	340,621,374	372,853,122	430,671,283	456,460,906	484,868,758
Ontario.....	687,729,936	766,491,887	844,162,648	928,515,728	991,397,120
Manitoba.....	112,495,837	127,658,248	148,274,072	159,554,101	162,578,296
Saskatchewan.....	176,118,129	192,585,333	238,663,980	250,698,689	244,370,743
Alberta.....	241,387,708	272,991,830	329,255,018	361,665,017	388,929,549
British Columbia.....	155,423,743	173,070,142	191,444,793	210,028,255	235,670,948
Totals, Gross Sales.....	1,843,025,718	2,045,288,355	2,343,659,756	2,548,696,209	2,698,001,304
Refunds and exemptions.....	461,777,271	527,198,497	625,547,937	646,181,392	677,096,843
Totals, Net Sales.....	1,390,090,447¹	1,528,905,858¹	1,718,111,819	1,902,514,817	2,020,904,461

¹ Estimated net sales for Newfoundland, amounting to 8,842,000 gal. in 1950 and 10,816,000 gal. in 1951, are included in net totals; gross sales for those years are not available.

Motor Carriers.*—Statistics of the 'for hire' segment of the motor carrier industry have been collected since 1941. Until 1946 firms having a gross revenue of \$8,000 or more were included but in 1947 the coverage was extended to include motor carriers having gross revenues of less than \$8,000.

The continued co-operation of provincial authorities, trucking associations and other interested parties has resulted in gradual improvement in the statistical accuracy of these data but much still remains to be done. Little capital is required to enter the trucking business and as a result many marginal operators are associated with the industry. The large turnover and numerous changes in operators each year creates many problems in the collection of statistics. Continued growth of the industry is indicated by the latest figures which, partly through amalgamations, show a smaller number of reporting firms than in 1952 but indicate an increase to \$261,422,465 (1953) from \$233,973,179 (1952) or approximately 11·7 p.c. in gross revenue.

For presentation, motor carriers have been separated into six groups, three freight and three passenger. Freight carriers are grouped as follows: (1) those having revenues of \$20,000 or over; (2) those having revenues between \$8,000 and \$19,999 and (3) carriers grossing less than \$8,000 per year. All city passenger carriers are included in the "city" group while "intercity and rural" passenger operators are divided between group (1), those having revenues over \$20,000 and group (2) which includes the operators with gross revenues of less than \$20,000.

* Statistics are given in more detail in DBS annual report, *Motor Carriers, Freight-Passenger*.

These statistics do not include motor bus operations of street railways except where such services are entirely motorized. Motor bus data for street railways are included under electric railway systems (*see* p. 804). Excluded are operations of vehicle fleets owned and operated by private companies where the vehicles are not available for public service, such as dairies, bakeries, departmental and grocery stores, oil and gasoline distributors, breweries, etc. Operators under almost exclusive contract, such as those engaged in the collection of milk or co-operative owned vehicles, are also excluded as are school buses owned and operated by school boards or municipalities or under contract.

8.—Summary Statistics of Freight and Passenger Motor Carriers 1950-53

Item		1950	1951	1952	1953
Carriers Reporting.....	No.	3,951	4,275	4,040	3,483
Passenger.....	"	..	..	425	419
Freight.....	"	..	..	3,615	3,064
Investments—land, buildings, equipment, etc. \$		141,213,577	160,225,318	177,112,456	202,362,522
Revenue.....	\$	179,301,971	200,616,604	233,973,179	261,422,465
Freight.....	\$	106,722,156	125,297,240	155,364,477	181,985,420
Passenger—intercity and rural.....	\$	48,435,299	50,370,028	49,922,877	49,465,440
city.....	\$	16,577,253	18,234,122	20,483,925	22,470,589
Miscellaneous.....	\$	7,567,263	6,715,214	8,201,900	7,501,016
Operating Expenses.....	\$	165,257,045	186,404,298	215,111,719	242,239,838
Maintenance.....	\$	33,512,864	39,040,209	45,130,418	45,228,846
Wages and bonuses of drivers and helpers.....	\$	41,159,837	46,260,003	54,709,002	62,896,153
Other transportation expenses.....	\$	26,333,803	28,745,208	32,556,087	33,695,077
Operating taxes and licences.....	\$	12,239,263	13,778,569	14,905,120	17,140,078
Other operating expenses.....	\$	52,011,278	58,580,309	67,811,092	83,279,684
Net Operating Revenue.....	\$	14,044,926	14,212,306	18,861,460	19,182,627
Traffic and Employees—					
Passengers—					
Regular routes—intercity and rural.....	No.	129,204,440	127,500,474	99,465,124	86,953,101
city.....	"	228,541,212	232,387,675	235,573,603	244,746,354
Special and chartered service—					
intercity and rural.....	"	5,282,092	5,710,307	4,704,306	4,329,785
city.....	"	314,201	348,282	356,945	153,932
Bus miles—					
Regular routes—					
intercity and rural.....	No.	114,130,811	112,115,732	110,158,784	111,862,184
city.....	"	45,608,064	47,830,513	42,001,905	44,688,077
Special and chartered service—					
intercity and rural.....	"	5,659,013	5,520,116	4,541,013	4,594,072
city.....	"	262,548	279,536	171,502	428,437
Freight carried—intercity and rural ¹	ton	19,009,488	18,248,756	19,095,669	22,494,110
Gasoline consumed.....	gal.	67,038,222	71,759,312	77,770,299	85,601,862
Diesel oil consumed.....	"	1,880,065	2,562,800	4,348,051	7,460,331
Working proprietors.....	No.	3,615	4,045	3,835	3,195
Allowances of working proprietors.....	\$	6,248,122	8,589,972	8,641,403	8,161,206
Employees—					
July 15.....	No.	27,328	28,747	31,417	32,888
December 15.....	"	26,573	27,768	30,866	31,814
Total salaries and wages.....	\$	62,095,726	70,539,370	84,919,511	95,112,580
Equipment—					
Trucks.....	No.	11,126	11,368	11,649	10,876
Tractor, semi-trailer units.....	"	3,640	4,081	4,791	6,108
Trailers.....	"	2,496	3,281	3,822	3,718
Buses.....	"	4,710	4,874	4,683	4,725

¹ Incomplete coverage.

9.—Statistics of Freight and Passenger Motor Carriers classified by Revenue Group 1953

Item	Freight Carriers			Passenger Carriers		
	Annual Revenue of \$20,000 or over	Annual Revenue of \$8,000- \$19,999	Annual Revenue of under \$8,000	City Service	Intercity Annual Revenue of \$20,000 or over	Rural Annual Revenue of under \$20,000
Carriers Reporting.....No.	951	845	1,268	79	132	208
Cost of Land, Buildings, Equipment, etc.....\$	105,270,730	7,712,768	5,050,574	21,078,462	61,395,554	1,854,434
Revenue.....\$	170,361,789	10,798,098	5,166,232	21,316,969	52,235,914	1,543,463
Passenger.....\$	326,274	22,517	—	20,868,185	49,465,901	1,235,689
Mail.....\$	188,795	44,980	27,155	40,818	1,272,180	154,367
Freight.....\$	166,315,697	10,371,951	4,882,772	—	309,093	48,434
Other.....\$	3,531,023	358,650	256,305	407,966	1,188,740	104,973
Operating Expenses.....\$	158,073,881	8,428,743	3,597,055	20,697,193	50,005,947	1,437,019
Net Operating Revenue.....\$	12,287,908	2,369,355	1,569,177	619,776	2,229,967	106,444
Traffic—						
Passengers.....No.	335,364	18,712	—	227,690,781	104,992,699	3,145,616
Freight carried ¹.....ton	19,777,589	1,838,838	846,113	—	25,020	6,550
Bus miles.....No.	663,252	112,483	—	42,932,418	112,536,643	5,327,974
Gasoline consumed.....gal.	55,038,906	4,721,556	2,534,433	7,441,776	15,172,851	692,340
Diesel oil consumed.....“	2,934,729	47,406	1,158	1,011,000	3,466,038	—
Working proprietors.....No.	765	921	1,288	19	55	147
Allowances of working proprietors.....\$	3,501,020	2,421,202	1,959,079	25,333	89,297	165,275

¹ Incomplete coverage.

Motor Vehicle Accidents.—Motorists are required by law to report accidents but complete statistics of these accidents are not available for all provinces. The Dominion Bureau of Statistics compiles statistics on all deaths from motor vehicle accidents and these are shown in Table 10. A direct comparison of such statistics between the provinces is of little value because of differences in size, population, motor vehicle density, etc., but, to put them on somewhat the same basis, the average number of deaths per 10,000 registered motor vehicles has also been tabulated. These data still give no weight to differences in use of motor vehicles, variations in climate, road conditions, tourist cars, etc., all of which are factors in accidents.

Data presented in Table 11 relate to traffic accidents only and consequently may not be compared with Table 10 which includes details of fatalities occurring elsewhere than on public streets or roads.

10.—Deaths Resulting from Motor Vehicle Traffic and Non-traffic Accidents by Province 1945-54

NOTE.—Figures for 1926-35 will be found in the 1941 Year Book, p. 578, and those for 1936-44 in the 1948-49 edition, pp. 712-713.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
DEATHS BY PLACE OF OCCURRENCE											
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1945.....	...	8	76	90	424	637	67	58	71	125	1,556
1946.....	...	4	84	69	482	729	94	70	91	158	1,781
1947.....	...	15	83	104	476	763	77	51	103	207	1,869
1948.....	...	5	96	118	599	782	81	87	125	193	2,086
1949.....	...	11	102	96	645	873	105	85	172	176	2,265

10.—Deaths Resulting from Motor Vehicle by Province 1945-54 Traffic and Non-traffic Accidents—concluded

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
DEATHS BY PLACE OF OCCURRENCE—concluded											
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1950.....	18	7	94	103	682	850	75	91	162	188	2,270
1951.....	26	20	103	122	818	991	102	93	184	227	2,686
1952.....	25	26	115	139	931	1,067	112	131	188	223	2,957
1953.....	28	14	133	124	959	1,119	111	153	261	219	3,121
1954.....	33	14	149	131	769	1,096	132	86	215	232	2,857
DEATHS PER 10,000 REGISTERED MOTOR VEHICLES											
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1945.....	...	9.05	13.40	21.65	18.41	9.61	7.22	4.14	5.46	9.27	10.39
1946.....	...	4.35	13.40	15.45	18.89	10.25	9.30	4.72	6.55	10.52	10.98
1947.....	...	15.08	11.81	20.16	16.05	9.41	6.87	3.22	6.63	11.52	10.17
1948.....	...	4.43	12.58	18.92	17.83	8.94	6.33	5.19	7.19	9.55	10.25
1949.....	...	8.33	12.22	14.27	16.76	9.00	7.51	4.59	8.58	7.65	9.89
1950.....	10.99	4.55	9.92	13.84	15.73	7.70	4.75	4.55	7.02	6.95	8.74
1951.....	12.96	11.84	9.78	14.69	16.34	8.22	5.96	4.32	7.08	7.79	9.36
1952.....	10.58	13.89	10.00	15.47	16.19	8.26	5.96	5.53	6.45	6.94	9.37
1953.....	9.47	6.90	10.26	13.20	15.52	7.96	5.45	5.94	8.19	6.28	9.10
1954.....	9.59	6.71	11.19	13.22	11.41	7.35	6.27	3.22	6.35	6.24	7.84

11.—Motor Vehicle Traffic Accidents by Province 1953 and 1954

Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1953												
Accidents Reported.....	2,692	982	8,984	4,932	88,699	65,866	12,832	11,061	16,964	22,096	337	235,445
Fatal—												
Resulting in death of one or more persons.	27	9	118	101	816	920	98	105	196	183	7	2,580
Non-fatal—												
Resulting in injury to one or more persons.	488	160	1,858	1,088	8,405	16,639	2,298	2,420	2,886	5,224	63	41,529
Resulting in property damage only ¹	2,177	813	7,008	3,743	79,478	48,307	10,436	8,536	13,882	16,689	267	191,336
Persons Killed.....	29	13	124	111	901	1,082	102	124	220	208	7	2,921
Drivers.....	6	5	39	28	..	307	64	70	84	55	4	..
Passengers.....	6	6	29	30	..	395	..	39	73	69	2	..
Pedestrians.....	15	1	49	50	..	320	34	13	48	71	1	..
Bicyclists.....	1	1	7	..	..	27	2	1	4	6	..	..
Motorcyclists and passengers.....	..	..	..	2	..	26	2	..	6	4	..	..
Others.....	1	..	1	..	..	7	..	1	5	3	..	..
Persons Injured.....	602	234	2,536	1,522	8,923	24,353	3,102	3,393	4,238	7,737	109	56,749
Drivers.....	114	70	673	438	..	7,011	1,005	1,287	1,447	2,202	50	..
Passengers.....	208	121	1,059	639	..	10,551	1,305	1,739	2,108	3,839	55	..
Pedestrians.....	243	36	714	358	..	4,853	559	263	528	1,230	..	..
Bicyclists.....	18	5	87	..	..	1,069	225	64	86	305	..	..
Motorcyclists and passengers.....	4	2	1	77	..	752	2	23	49	146	..	..
Others.....	15	..	2	10	..	117	8	17	20	15	..	..
Property Damage Caused¹.....\$'000	712	305	1,984	1,531	..	24,262	..	4,283	6,520	7,128	223	..
1954												
Accidents Reported.....	3,159	1,128	9,812	6,512	..	62,509	12,943	8,631	15,649	22,425	400	143,168
Fatal—												
Resulting in death of one or more persons.	20	8	140	113	..	897	106	53	165	181	5	1,688
Non-fatal—												
Resulting in injury to one or more persons.	436	171	1,882	1,438	..	16,810	2,238	1,865	2,464	5,246	77	32,627
Resulting in property damage only ¹	2,703	949	7,790	4,961	..	44,802	10,599	6,713	13,020	16,998	318	108,853

For footnotes, see end of table.

11.—Motor Vehicle Traffic Accidents by Province 1953 and 1954—concluded

Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1954												
Persons Killed	23	12	157	123	..	1,045	121	74	189	211	5	1,960
Drivers.....	2	5	39	25	..	331	39	31	82	61	1	616
Passengers.....	6	7	57	36	..	329	37	28	68	72	3	643
Pedestrians.....	14	—	57	60	..	339	36	13	32	66	1	618
Bicyclists.....	—	—	4	—	..	29	7	2	3	5	—	50
Motorcyclists and pas- sengers.....	—	—	—	—	..	14	1	—	2	6	—	23
Others.....	1	—	—	2	..	3	1	—	2	1	—	10
Persons Injured	541	219	2,515	1,856	..	24,607	3,021	2,631	3,918	7,582	130	47,020
Drivers.....	107	58	691	522	..	7,350	926	967	1,305	2,268	52	14,246
Passengers.....	158	83	1,024	760	..	10,647	1,295	1,368	1,872	3,763	72	21,042
Pedestrians.....	236	68	711	450	..	4,850	617	239	562	1,067	6	8,806
Bicyclists.....	25	8	83	91	..	991	182	41	98	318	—	..
Motorcyclists and pas- sengers.....	6	1	6	..	..	671	2	7	61	148	—	..
Others.....	9	1	—	33	..	98	1	9	20	18	—	189
Property Damage Caused \$'000	925	309	2,238	1,969	..	25,387	..	3,142	5,469	7,303	263	..

¹ Reports are for accidents causing property damage estimated at \$50 or over except for the following: Saskatchewan reports \$100 or over; Quebec and Yukon report \$25 or over; Alberta and N.W.T. report \$75 or over. Charlottetown, P.E.I. reports all accidents to Sept. 30, 1954 and \$50 or over thereafter. Ontario reports from \$50 to \$100 with effect Apr. 6, 1954. ² Included with "Drivers" and "Passengers."

PART IV.—WATERWAYS*

The Canada Shipping Act.—Legislation regarding all phases of shipping is consolidated under the Canada Shipping Act (R.S.C. 1952, c. 29). Under the Act and its amendments the Parliament of Canada accepts full responsibility for the regulation of Canadian shipping.

Section 1.—Shipping Facilities and Traffic

In view of the current interest in the St. Lawrence Seaway project which, when construction is completed, will provide greatly extended facilities for the movement of commodities along its course, a special article is included here giving an account of the present use of the St. Lawrence waterway and the shipping service it now provides.

Following the special article, developments and equipment to facilitate water traffic are classified in Subsections 1 to 4 under the headings of shipping, harbours, canals and aids to navigation. Subsection 5 gives information regarding pilotage service, steamship inspection and personnel shipped and discharged.

TRAFFIC ON THE GREAT LAKES-ST. LAWRENCE SEAWAY†

The Great Lakes-St. Lawrence waterway is one of Canada's most valuable transportation assets. A natural westward extension of the important North Atlantic route penetrating some 2,200 miles into the middle of North America, it has been aptly described as a "great highway leading into the heart of the continent". Along this highway came

* Information and statistics dealing with this subject, except for the special article, have been supplied as follows: aids to navigation, canals, harbours, administrative services, and marine services, by the Department of Transport and the National Harbours Board; part of the financial statistics, by the Department of Public Works; shipping subsidies, by the Director of Subsidized Steamship Services, Canadian Maritime Commission; Panama Canal, by the Governor of the Panama Canal Zone; other canal traffic and statistics of shipping, by the Public Finance and Transportation Division, Dominion Bureau of Statistics.

† Prepared by Dr. S. Judek (University of Ottawa) of the staff of the Royal Commission on Coasting Trade. Statistical data have been obtained from the following sources: *Canal Statistics*, DBS, Public Finance and Transportation Division; *The Canals of Canada*, Department of Transport; Annual Report of the Lake Carriers' Association, 1954; *Grain Elevators in Canada, 1953-54*, Board of Grain Commissioners. Most of the figures have been rounded.

explorers to open the country, followed later by settlers seeking new rich lands. As the main route of development this waterway linked the early eastern with the later western settlements and provided those settlements with cheap and easy access to European markets.

Throughout Canadian history this water route has continued to play the same vital role—that of providing low-cost water transportation. This will continue to be a fundamental factor in the economic development of the country. Cheap transport facilities are essential to span the long distances separating the various regions of Canada and the St. Lawrence waterway provides such facilities between the industrial areas of eastern Canada and the primary producing areas of western Canada. Furthermore cheap transportation along the St. Lawrence route from the producing areas to the North Atlantic is an equally important factor in Canada's ability to compete in overseas markets. Canada is the fourth trading nation of the world and is dependent on these overseas markets for the sale of many of its exports, grain, minerals, forest products and some manufactures, and for the supply of many imported consumer and producer goods. In addition for some years past a growing proportion of Canada's external trade has been with the United States and in this north-south trade also the St. Lawrence route is of vital significance.

Contiguous to this great waterway are situated six Canadian Provinces and eight States of the United States, a portion of the continent with a heavy concentration of population and one of the greatest industrial areas in the world. The entire area served by the St. Lawrence system accounts roughly for four-fifths of the iron and steel production of the United States and Canada, the same proportion of cereal grains, two-thirds of general manufacturing, one-quarter of the chemical products and of the oil refining. Low-cost water transportation has been a major factor in the development of this concentration of industry.

The volume of traffic on the Great Lakes amounted in 1955 to nearly 200,000,000 net tons (net ton = 2,000 lb.) per annum, all of which must be transported within a navigation season of about 230 days (from the middle of April to the middle of December). About 40,000,000 tons of this total is carried by Canadian ships and most of the remaining 160,000,000 tons by United States vessels. A small amount is carried by ocean-going ships which are able to make their way up the St. Lawrence canals. The annual traffic through the St. Lawrence canals in recent years has amounted to nearly 10,000,000 tons. A great part of the traffic on the Great Lakes and on the St. Lawrence canals consists of bulk commodities of low unit value, the most important being iron ore, grain, coal, forest products and petroleum products.

WATERWAY AND TRANSPORT FACILITIES

From the water level of Lake Superior, the Great Lakes-St. Lawrence inland waterway falls to sea level in five steps: (1) St. Mary's River between Lakes Superior and Huron, with a drop of 21 feet; (2) St. Clair-Detroit passage joining Lake Huron and Lake Erie, with a drop of 8 feet; (3) Welland Canal from Lake Erie to Lake Ontario, with a drop of 326 feet; (4) upper St. Lawrence River from Lake Ontario to Montreal, with a drop of 225 feet; and (5) long passage from Montreal to the sea, with a drop of 20 feet.

Although the numerous rapids and falls between Lake Superior and Montreal are a valuable asset to Canada as a source of hydro-electric power, they have greatly increased the difficulties of navigation on the Great Lakes-St. Lawrence water route. The construction of canals to bypass these obstacles and to improve navigation has proceeded intermittently for more than a century but much still remains to be done. Of the ocean fleet, only small vessels carrying about 1,500 tons can now sail from the Atlantic Ocean to the head of the Lakes. The total volume of traffic on the Great Lakes-St. Lawrence water route is at present limited by the inadequacy of the navigation facilities between Montreal and Lake Ontario, which divides the route as a whole into three sections.

The eastern section of the route is the deep-water section from Montreal to the sea, including the St. Lawrence Ship Channel extending from Montreal to 30 miles below Quebec City. Canadian Government dredges maintain this channel at a depth of 35 feet,

so that most ocean liners can sail safely up to Montreal. The channel is being widened and straightened to provide for increased traffic after the completion of the St. Lawrence Seaway.

In the centre section—the 120 miles between Montreal and Prescott near the foot of Lake Ontario—the governing depth of the channel is 14 feet, which is the depth of the six canals built in this region to bypass various rapids on the St. Lawrence. These canals are: (1) the Lachine Canal, bypassing the Lachine rapids; (2) the Soulanges Canal, bypassing the Cascades, Cedars and Coteau rapids; (3) the Cornwall Canal, bypassing the Long Sault rapids, where Lock 17 limits the size of vessels to 255 feet in length, 43 feet in width and a draught of less than 14 feet; (4) Farran's Point Canal, bypassing the Iroquois rapids; (5) Rapide Plat Canal, bypassing the Cardinal rapids; and (6) Galop Canal, bypassing the Galop rapids. It is this shallow section which prevents most ocean-going vessels from sailing beyond Montreal and which also keeps the large lake freighters on the inland waters of the Great Lakes.

Seaway construction however will improve navigation facilities by providing a channel of minimum 27 foot depth and by replacing the six St. Lawrence canals and 22 locks with three canals and only seven locks. Ocean-going vessels carrying about 9,000 tons and the largest existing 'Great Lakers' carrying bulk cargoes of about 25,000 tons will be able to pass through this section in much less time than is now taken by the smaller vessels. The average time which will be required to go through the locks of the canals on the upward voyage has been estimated at 18.5 hours and on the downbound trip 16.5 hours as compared with the present requirements of 30.7 hours and 23.7 hours respectively. The resulting increase in the carrying capacity of the waterway is obvious as well as the saving in cost.

In the Great Lakes above the St. Lawrence canals, there is a large mercantile fleet of approximately 750 ships flying Canadian or United States flags. Most of these ships are confined to the Great Lakes by the shallow St. Lawrence channels mentioned. Vessels in this section are limited in size by the smallest lock on the Welland Canal which bypasses the Niagara falls and rapids between Lake Ontario and Lake Erie. This lock takes vessels up to 715 feet in length, 75 feet in width with a draught of 25 feet. Larger vessels may trade in the upper Great Lakes passing from Lake Huron to Lake Superior at Sault Ste. Marie by the McArthur Lock. Four smaller locks, one Canadian and three United States, also bypass the rapids at this point. Channels in the upper lakes now provide a depth of 25 feet for upbound traffic and 21 feet downbound.

The number of Canadian flag vessels of 1,000 or more gross tons operating on the upper lakes and through the St. Lawrence canals in November 1955 was as follows:—

CONFINED TO UPPER LAKES			CAPABLE OF PASSING THROUGH ST. LAWRENCE CANALS		
No.	Gross Tonnage	Deadweight Tonnage	No.	Gross Tonnage	Deadweight Tonnage
Dry cargo.....	69	467,453	152	299,509	441,745
Tankers.....	2	25,233	37	71,969	105,200
Passenger.....	5	13,080	—	—	—
TOTALS.....	76	505,766	189	371,478	546,945

It is claimed that the dry bulk cargo ships on the Great Lakes, because of their special design and large carrying capacity, provide the lowest ton-mile transportation cost in the world. Their deadweight capacity ranges from 5,000 to 25,000 tons for the most recent additions to the fleet. With the exception of two self-unloading colliers which carry their own cargo loading equipment, these ships rely on loading and unloading facilities at the ports. Four of the cargo vessels operating on the Great Lakes are package freighters which carry a wide range of general merchandise, including such commodities as farm implements, automobiles and parts, hardware and electrical equipment. Package freight is of high

value in proportion to size and weight. These vessels usually run on regular schedules; they are faster than bulk carriers and a few carry passengers. Rates charged for package freight are under the control of the Board of Transport Commissioners.

Most of the traffic through the St. Lawrence canals from the Great Lakes to points on the lower St. Lawrence is carried in canallers, special vessels whose dimensions are limited by Lock 17 in the Cornwall canal (*see* p. 823). Of the 189 Canadian canallers at present operating, 17 are package freighters, 37 are tankers and 135 are bulk dry cargo carriers. These bulk ships which have a deadweight capacity of between 2,350 and 3,000 tons carry chiefly grain and also other bulk cargoes such as iron ore and coal, sulphur, pulpwood, etc.

In postwar years direct trade between the Great Lakes and overseas countries has shown a steady increase. In 1954 eleven steamship lines operated regular ocean services to and from the Great Lakes, carrying nearly 800,000 tons of freight. In 1955 this trade showed a further increase, with 17 shipping lines operating regular ocean services on the route. Part of this increase may be accounted for by experimental voyages in anticipation of the opening of the Seaway. It is expected that after completion of the Seaway the direct overseas traffic will increase both in volume and in value. At present most of the freight consists of manufactured goods such as iron and steel products, cars, electrical goods, glass, chemicals, clay and earthenware products, etc. In 1954 six cargoes of grain were carried directly to overseas ports.

PORT FACILITIES

Efficient and economical water transportation depends to a large degree on port and harbour facilities, such as docks, wharves, grain elevators, warehouses, loading and unloading equipment, railway connections, drydock accommodations, etc. Present port facilities in the Great Lakes are, on the whole, adequate for the current volume of traffic. Port Arthur and Fort William, twin ports at the head of the Lakes, have a combined total capacity of over 90,000,000 bu. in their grain elevators. Upon completion of the Seaway and the arrival of ocean-going ships at the Lakehead, new loading and unloading facilities may be required.

At Windsor the main docks are owned by private operators and any increase in traffic will probably necessitate additional construction. At Hamilton also the companies engaged in the handling of bulk commodities like coal, steel and iron ore have their own docks and loading and unloading equipment. The Hamilton Harbour Commission plans considerable expenditure on further developments such as the construction of docks and grain elevators, to handle the increased traffic expected after the completion of the Seaway. In Toronto the capacity of the grain elevators is about 4,000,000 bu. and a new warehouse has recently been constructed. Other Great Lakes and river ports where there are grain elevators of considerable capacities include Midland, Collingwood, Port McNicoll, Goderich, Sarnia, Port Colborne, Kingston and Prescott.

In the lower St. Lawrence the most important port is Montreal, where there are excellent facilities for the handling of general cargo. At the present time however there are no facilities for unloading grain from large Lakers which cannot get through the present canals; this situation is being remedied. In addition the loading and unloading facilities of various grain elevators will need further improvement. As at Dec. 31, 1953 the total capacity of grain elevators at Montreal was nearly 16,000,000 bu. Farther down the River Sorel has a modern 3,000,000 bu. grain elevator and Three Rivers has a 5,000,000 bu. elevator but improvements may be required in grain storage and transfer facilities. The Port of Quebec has a grain elevator capacity of 4,000,000 bu. but its facilities for handling general cargo may need improvement. If, after completion of the Seaway, large Lakers were to move as far east as Quebec City, appropriate elevator facilities for unloading such vessels would have to be installed and loading facilities for ocean-going ships increased. At Contrecoeur, a dock has been constructed for transshipping approximately 2,000,000 tons of iron ore a year from Seven Islands to westbound canallers. There are at the present time no facilities at Seven Islands for storing grain and discharging it into ocean-going ships.

FREIGHT TRAFFIC AND SOME COMMODITY MOVEMENTS

As already mentioned most of the freight traffic on the Great Lakes consists of bulk shipments of commodities. The following figures, published by the Lake Carriers' Association, indicate the steady increase since 1900 in the movement of the four most important of these commodities—iron ore, grain, coal and limestone:—

	<i>Net tons</i>		<i>Net tons</i>
1900.....	35,297,624	1940.....	145,216,410
1910.....	80,014,591	1950.....	177,952,946
1920.....	106,518,531	1953.....	199,696,932
1930.....	112,528,927	1954.....	151,297,789

These shipments reached a record level in 1953. The decline of about 48,000,000 tons in 1954 was partly the result of smaller shipments of industrial products, particularly of iron ore, and partly of smaller movements of Canadian wheat and other grains. Of the 151,300,000 tons shipped in 1954, 68,000,000 tons (45 p.c.) were iron ore, 46,000,000 tons (30.5 p.c.) coal, 12,000,000 tons (8 p.c.) grain, and 25,000,000 tons (16.5 p.c.) limestone. Some indication of the movements of these and other commodities is given in the following statistics of freight movements through the canals in the Great Lakes and the St. Lawrence.* These figures however do not include shipments that do not pass through any of the canals. Most of the limestone shipped on the Great Lakes to the steel industries does not pass through the canals and much of the soft coal shipped from Lake Erie goes to other ports on the Great Lakes between the Welland and Sault Ste. Marie Canals.

Tonnages of commodities moving through the Sault Ste. Marie, Welland and St. Lawrence canals in 1954 were as follows:—

	<i>Sault Ste. Marie¹</i>	<i>Welland</i>	<i>St. Lawrence</i>
	(millions of net tons)		
Wheat.....	6.30	2.86	2.37
Other grain.....	4.40	2.45	1.76
Flour.....	0.10	0.02	0.02
Other mill products.....	—	0.01	0.02
Iron ore.....	62.58	2.30	0.30
Pig iron.....	0.22	0.02	—
Manufactured iron and steel.....	0.22	0.15	0.05
Paper.....	—	0.42	0.23
Wood pulp.....	—	0.05	0.04
Pulpwood.....	0.46	0.52	0.50
Lumber.....	—	—	0.03
Anthracite coal.....	0.05	—	0.01
Soft coal and coke.....	7.39	4.98	1.47
Gasoline.....	0.65	0.37	0.12
Other petroleum.....	0.63	1.93	1.00
Sand, gravel and stone.....	1.22	0.17	0.21
All other.....	1.19	1.26	1.51
TOTALS.....	85.41	17.51	9.64

¹ Including U.S. locks.

The above figures include all traffic passing through the canals, that is, traffic to and from all Canadian and American ports in vessels wherever registered. No tolls are levied for passage through the canals, which are currently available to all vessels able to pass through the locks.

Total cargo tonnage passing through the Sault Ste. Marie, Welland and St. Lawrence canals reached a record level in 1953. The 1954 total marks a decline from 1953 of about 30 p.c. to 101,900,000 tons. Approximately 87,000,000 tons of this traffic was downbound, only 14,000,000 tons moving in a westward direction. (Duplications are excluded as far as possible.) The most striking feature of the freight traffic picture is the volume passing through the Sault Ste. Marie canals compared with that going down the River through the St. Lawrence canals. This emphasizes again the difference in the volume

* DBS Canal Statistics.

of traffic on the Great Lakes as compared with that on the St. Lawrence. Traffic through the Sault Ste. Marie canals in the eight month navigation season is greater than that passing in twelve months through the Panama and Suez Canals combined. Most of the traffic at Sault Ste. Marie passes through the four United States locks. Of the total traffic of 85,400,000 net tons in 1954, only 2,600,000 tons passed through the Canadian lock. Noteworthy also is the predominance of iron ore shipments which amounted to more than shipments of all other products through the Sault Ste. Marie canals. Coal and grain, the latter mostly Canadian, accounted for more than 78 p.c. of the remaining traffic.

Nearly 9,000,000 tons of the 17,500,000 tons of through and way traffic on the Welland canal in 1954 passed from United States to Canadian ports. Soft coal (5,000,000 tons) and iron ore (2,000,000 tons) were the chief items. Canadian coastal shipments accounted for 6,000,000 tons of which 4,500,000 tons were grain, and United States coastal trade for about 1,500,000 tons. Canadian shipments to United States ports (mainly paper and wood pulp) totalled under 1,000,000 tons.

Over two-thirds of the traffic on the St. Lawrence canals—6,600,000 tons—consisted of shipments from Canadian ports; those to Canadian ports accounted for 5,700,000 tons of which wheat and grain from the Prairie Provinces made up nearly 4,000,000 tons. Petroleum and gasoline (1,100,000 tons), pulpwood (279,000 tons), paper (219,000 tons) and iron ore (233,000 tons) were the other main items shipped. Most of the remaining traffic was soft coal shipped from the United States to Canada, amounting to 1,400,000 tons; about 800,000 tons were direct overseas shipments and a small amount, 400,000 tons, moved in United States coastal trade.

Movement of Agricultural Products.—Agricultural products such as wheat, barley, corn, oats, rye, flaxseed, flour and other mill products are the most important group of Canadian commodities moving by way of the St. Lawrence system from the Prairies to eastern parts of the country for domestic and export markets. In 1954, out of nearly 12,000,000 net tons total grain movement on the Great Lakes, 10,700,000 tons went through the Sault Ste. Marie canals; of the latter 6,300,000 net tons were wheat and 4,400,000 tons were other grains. Only 2,100,000 net tons of total wheat shipments came from the United States; this moved from Duluth and Superior mainly to flour mills in Buffalo and in smaller quantities to Oswego, Erie and Cleveland.

Thus Canadian shipments of wheat from Fort William and Port Arthur totalled 4,200,000 net tons. Normally almost half of the Canadian wheat from these Lakehead ports is carried in upper lakes bulk freighters to the Georgian Bay and Lake Huron ports of Midland, Port McNicoll, Collingwood, Goderich and Sarnia; about one-quarter goes to Port Colborne and the remainder to Toronto, Kingston and Prescott. All these ports are trans-shipment points. A small quantity moves also to United States Lake Erie ports. From these trans-shipment points, wheat moves by rail to Montreal or by small canallers through the St. Lawrence canals to the ports of Montreal, Sorel, Quebec City and Three Rivers. Grain may also move directly from the Lakehead ports to the lower St. Lawrence ports. From Georgian Bay ports about four-fifths is carried by rail destined to Ontario and beyond, especially to Montreal, Halifax and Saint John, N.B. From the lower lakes and the upper St. Lawrence ports about two-thirds of the wheat received from the West moves on by water to the lower St. Lawrence ports.

The downbound movement of corn through the Welland and St. Lawrence canals comes from western Ontario and the United States. Canadian grains (other than corn and wheat) are shipped from the Prairies through the Sault canals and then by rail. Somewhat more than one-third comes down the St. Lawrence canals. There is only a small traffic in flour through all the canals concerned as this commodity is mainly moved by rail.

Movement of Iron Ore.—Cheap water transportation of iron ore and limestone by way of the Great Lakes has been a major factor in the development of the steel industries of the United States and Canada. The steel mills of the United States are located principally in the area around Lake Erie and south of Lake Michigan and Canadian mills are located

at Hamilton, Welland and Sault Ste. Marie. These industries still rely chiefly on iron ore from the Mesabi Range in Minnesota supplemented by ore from the Steep Rock and Algoma areas in Ontario.

In 1954 the Lake Carriers' Association reported that total shipments of iron ore from ports on the Great Lakes amounted to 68,100,000 net tons. Nearly 97 p.c. of these shipments were from United States ports on Lake Superior (Superior, Two Harbours, Duluth, Escanaba, etc.) and about 3 p.c. from the Canadian ports of Port Arthur and Michipicoten. Most of the iron ore (96 p.c.) went to the United States steel industry—65 p.c. to the Lake Erie ports of Cleveland, Conneaut, Buffalo, Lorain, etc. The Canadian ports of Hamilton, Port Colborne and Sault Ste. Marie received about 4 p.c.

In recent years the output of the best United States Mesabi ore has passed its peak and the cost of producing iron ore has been increasing. The United States steel industry has, therefore, been seeking new sources of ore to supplement and, perhaps later, to supplant the present supply. In 1954 for the first time in United States history, imports of iron ore were substantial, amounting to about 8,000,000 tons—5,000,000 from Venezuela and 3,500,000 from Canada. Most of the supply from Canada came from Ontario but a small amount, about 233,000 tons, came from the Quebec-Labrador area. These shipments mark the beginning of a new pattern in movements of iron ore. The development of the tremendous reserve in the Quebec-Labrador area and the construction of the St. Lawrence Seaway provide the United States and Canadian steel industries with a new source of iron ore, easily accessible and at a cost competitive with the present prices of ore from the Mesabi Range. It is very likely that, in the not too distant future, shipments of iron ore will be the major item of westbound freight up the St. Lawrence. Only a small amount of pig iron passes through the canals. The traffic in iron and steel products is predominantly eastward, and moves mostly by rail.

Movement of Forest Products.—The forest group of commodities includes principally newsprint, wood pulp, pulpwood and lumber. In proportion to the total tonnage of these products moving in Canadian trade, only very small amounts are shipped by the St. Lawrence waterway. Shipments of pulpwood are the most important—each year about half a million tons move downbound through the Sault Ste. Marie canals and about the same volume moves upbound through the St. Lawrence and Welland canals. About half of the pulpwood goes to the United States and the remainder to Thorold, Ont. A substantial proportion of the pulpwood comes from Franqueline, Que., and other places in that Province and in Newfoundland.

Canadian wood pulp, like newsprint, has a substantial market in the United States but most of it moves by rail. Some wood pulp comes from Ontario and some from Quebec moves up through the St. Lawrence canals from Baie Comeau to the Chicago area. Only about 240,000 tons of newsprint passed through the St. Lawrence canals in 1954, mostly to the United States—a small amount compared with the total export of approximately 5,000,000 tons. Lumber transported from British Columbia and the Maritime Provinces, moving into central Canada and the United States, is largely transported by rail; British Columbia lumber also moves eastward via the Panama Canal.

Movement of Coal.—Most of the coal moving on the Great Lakes comes from the United States Lake Erie ports, though a small amount comes from the port of South Chicago. As already stated the greater part of the coal shipments do not go through canals. Of the total 1954 shipments of over 46,000,000 net tons, only about 7,400,000 tons passed through the Sault Ste. Marie canals, of which 1,500,000 net tons went to Canadian ports. About half of the approximately 10,000,000 net tons of coal imported into Canada each year from the United States comes by water. Most of this goes to ports on Lake Erie and Lake Ontario, but only about 1,500,000 net tons passes down the St. Lawrence canals to Quebec. This Province also receives coal, assisted by the Canadian Government freight subvention, from Sydney, N.S., but only a small amount, 95,000 net tons, moves up the St. Lawrence River as far as Cornwall, Ont. There is also a relatively unimportant downbound traffic through the St. Lawrence canals in coke, which originates in the United States.

Movement of Gasoline and Petroleum.—The Ontario ports of Sarnia, Toronto and Port Credit are the major Canadian distributing centres for gasoline and petroleum products in the Great Lakes region, and Montreal is the major distributing centre for the St. Lawrence region. All shipments of gasoline to Fort William and Port Arthur at Lakehead in 1954 were from Canadian ports—almost half from Montreal and the remainder from Toronto and Clarkson, Ont. The St. Lawrence upbound petroleum traffic of 1,000,000 net tons came almost wholly from Trinidad in the British West Indies to Port Credit, Ont., and a small quantity downbound from western Canada.

Between 1950 and 1954 crude oil from Alberta flowed through a pipeline to Superior, Wisconsin, and from there was shipped by tanker mainly to Sarnia, Corunna and Clarkson in Ontario. Since 1954 however when the pipeline was extended from Superior to Sarnia, waterborne shipments of crude oil have declined markedly and only one or two large tankers now operate on the Great Lakes.

Movement of Sand, Gravel and Stone.—These bulk commodities represent low unit value and are usually carried in scows. They constitute a considerable volume of traffic in the Great Lakes area but are of no practical importance on the St. Lawrence as only small amounts move down from the Oka region of Quebec to Montreal.

Movement of other Cargo.—In addition to the commodities specified above, other commodities moving by way of the St. Lawrence system include some bulk commodities such as cement, gypsum, quartzite, fluorspar, sulphur, fertilizers, etc., which are shipped in relatively small quantities, and general merchandise, such as salt, sugar, fish, packaged freight, etc. Cement is shipped from Belleville to Toronto, Ont., and gypsum is carried from the Maritimes to Montreal, where it is trans-shipped and then taken through the St. Lawrence canals to Belleville. Quartzite is moved from the south shores of Lake Huron to Welland and Cornwall. Fluorspar comes up the River from Newfoundland; sulphur is carried from Sorel in Quebec to Cornwall, Hamilton and Thorold in Ontario; fertilizers move mainly by rail but a small quantity moves through the canals from Sorel to Hamilton. Salt is shipped from Windsor and Sarnia to other ports on the Great Lakes, Cornwall and Montreal. Canal movement of cars and car parts is negligible. General merchandise, which consists of miscellaneous goods of varying size and weight, is of high unit value and provides considerable revenue to the shipowners, particularly in the lower St. Lawrence River.

This review of the traffic of commodities on the Great Lakes and through the St. Lawrence canals illustrates the economic importance of this water route to Canada in general and to the provinces adjacent to it in particular. Parallel advantages accrue to the United States. The economic growth of the two countries however is such that the present waterway is inadequate for the steadily increasing traffic. The construction project now under way has been undertaken to alleviate that inadequacy and to provide the facilities that will enable the waterway to perform in the future the role for which it has been designed. The new Seaway will be completed for use in the navigation season of 1959.

Subsection 1.—Shipping

All waterways including canals and inland lakes and rivers are open on equal terms, except in the case of the coasting trade, to the shipping of all countries of the world so that the commerce of Canada is not dependent entirely upon Canadian shipping. However a large part of the inland and coastal traffic is carried in ships of Canadian registry.

Canadian Registry.—Under Part I of the Canada Shipping Act all ships in excess of 10 tons net register are required to be registered; ships of lower tonnage may be registered voluntarily, otherwise they are required to be operated under a Vessel Licence if powered by a motor of 10 h.p. or more. Sect. 6 of the Act restricts ownership to British subjects or bodies corporate established under and subject to the laws of some part of Her Majesty's Dominions and having their principal place of business in those Dominions.

Under the British Commonwealth Merchant Shipping Agreement all Commonwealth ships are given the general designation 'British Ship'; and a ship that should be but is not registered is not entitled to the privileges accorded to British ships. Ships in the planning stage or in course of construction may be recorded before registry by a Registrar of Shipping.

1.—Vessels on the Canadian Shipping Registry by Province as at Dec. 31, 1952-54

NOTE.—Figures for 1935-51 are given in the corresponding table of previous Year Books beginning with the 1941 edition.

Province or Territory	1952		1953		1954	
	No.	Net Tons	No.	Net Tons	No.	Net Tons
Newfoundland.....	1,636	77,066	1,405	68,965	1,255	60,217
Prince Edward Island.....	164	7,881	201	8,090	227	8,257
Nova Scotia.....	4,389	139,098	4,570	138,295	4,760	106,240
New Brunswick.....	1,012	38,939	1,067	41,664	1,111	41,814
Quebec.....	1,815	554,044	1,931	528,456	1,969	491,161
Ontario.....	1,858	503,447	1,944	505,609	2,025	526,677
Manitoba.....	105	12,142	103	11,985	102	11,968
Saskatchewan.....	1	147	1	147	1	147
Alberta.....	2	385	3	418	4	430
British Columbia.....	4,816	394,148	4,933	387,056	5,092	381,560
Yukon Territory.....	17	3,767	17	3,767	16	3,572
Northwest Territories.....	—	—	6	263	6	263
Totals.....	15,815	1,731,064	16,181	1,694,715	16,568	1,632,306

Shipping Traffic.—Complete statistics of shipping traffic, comparable with those given for the railways, showing all the freight carried by water, are not available. However there is a record of the number and tonnage of ships calling at all ports at which there are customs collectors and of cargoes of vessels trading between Canadian and foreign ports. Each vessel visiting a customs port or outport makes a statistical return which is forwarded to the Dominion Bureau of Statistics. Coastwise cargo has been reported from Jan. 1, 1952.

Reports are not made for vessels of less than 10 registered net tons and the tonnage of tugs is the gross ton and not the net ton used for cargo vessels. Fishing vessels are not required by customs regulations to report when operating from certain ports; consequently the data are not on the same basis as data for cargo vessels.

2.—Vessels Entered at Canadian Ports¹ 1945-54

NOTE.—Figures for the years ended Mar. 31, 1929-35 are given in the 1941 Year Book, p. 597, and for 1936-44 in the 1948-49 edition, p. 733.

Year	In Foreign Service ²		In Coasting Service		Totals	
	Vessels	Net Tons Registered	Vessels	Net Tons Registered	Vessels	Net Tons Registered
	No.	No.	No.	No.	No.	No.
1945.....	24,431	29,655,984	65,410	48,098,201	89,841	77,754,185
1946.....	26,461	30,367,071	67,014	45,559,014	93,475	75,926,085
1947.....	27,868	35,926,095	73,439	51,823,502	101,307	87,749,597
1948.....	31,138	39,443,055	75,141	52,453,382	106,279	91,896,437
1949.....	30,565	40,088,377	82,012	56,037,003	112,577	96,125,380
1950.....	31,420	42,816,949	84,065	56,066,997	115,485	98,883,946
1951.....	32,304	47,508,342	86,571	60,802,798	118,875	108,311,140
1952.....	33,782	52,156,098	79,722	56,776,504	113,504	108,932,602
1953.....	34,400	56,589,078	88,675	67,417,391	123,075	124,006,469
1954.....	31,079	54,767,687	84,890	64,291,085	115,969	119,058,792

¹ Exclusive of passenger services.

² Sea-going and inland international.

3.—Vessels Entered at each of the Principal Canadian Ports 1954

NOTE.—For details of shipping at all ports in Canada, see DBS publication, *Shipping Report*.

Province and Port	In Foreign Service ¹		In Coasting Service		Totals	
	Vessels	Net Tons Registered	Vessels	Net Tons Registered	Vessels	Net Tons Registered
	No.	No.	No.	No.	No.	No.
Newfoundland²	2,091	2,463,276	6,445	2,631,672	8,536	5,094,948
Bell Island.....	154	652,790	86	257,692	240	910,482
Botwood.....	58	180,719	31	43,935	89	224,654
Corner Brook.....	169	307,222	555	545,813	724	853,035
Port aux Basques.....	21	6,112	830	403,037	851	409,149
St. John's.....	814	851,699	1,237	482,615	2,051	1,334,314
Prince Edward Island²	55	49,007	325	132,414	380	181,421
Charlottetown.....	39	28,053	215	97,742	254	125,795
Nova Scotia²	3,805	6,281,760	6,973	4,030,047	10,778	10,311,807
Digby.....	73	28,909	416	668,433	489	697,342
Halifax.....	1,164	4,636,464	880	943,744	2,044	5,580,208
North Sydney.....	274	50,369	1,856	622,662	2,130	673,031
Sydney.....	133	159,699	834	1,255,289	967	1,414,988
Yarmouth.....	348	116,064	347	25,880	695	141,944
New Brunswick²	5,366	2,036,349	3,442	1,419,205	8,808	3,455,554
Campobello.....	490	8,916	34	1,217	524	10,133
Saint John.....	528	1,678,696	921	955,767	1,449	2,634,463
Quebec²	3,978	11,445,223	14,040	11,272,886	18,018	22,718,109
Baie Comeau.....	37	86,092	775	289,238	812	375,330
Montreal.....	2,054	5,274,595	3,919	4,614,755	5,973	9,889,350
Port Alfred.....	523	1,670,431	823	612,297	1,346	2,282,728
Quebec.....	642	2,593,638	2,187	2,545,237	2,829	5,138,875
Three Rivers.....	254	642,488	2,950	1,435,290	3,204	2,077,778
Ontario²	6,518	12,696,256	10,977	17,212,350	17,495	29,908,606
Amherstburg.....	65	124,335	91	42,848	156	167,183
Cobourg.....	17	17,240	80	73,009	97	90,249
Cornwall.....	88	73,537	300	325,384	388	398,921
Port William.....	286	739,256	654	1,987,509	940	2,726,765
Hamilton.....	668	2,308,319	571	596,181	1,239	2,904,500
Kingston.....	530	93,907	747	1,071,913	1,277	1,165,820
Midland.....	64	162,696	112	344,347	176	507,043
Port Arthur.....	354	1,045,733	880	3,091,450	1,234	4,137,183
Port Colborne.....	243	473,806	711	1,518,499	954	1,992,305
Port McNicoll.....	1	4,638	94	326,775	95	331,413
Prescott.....	191	322,883	504	961,027	695	1,283,910
St. Catharines.....	44	93,919	113	99,726	157	193,645
Sarnia.....	435	886,119	769	1,394,640	1,204	2,280,759
Sault Ste. Marie.....	350	1,146,833	365	473,042	715	1,619,875
Thorold.....	140	226,792	394	608,498	534	830,290
Toronto.....	963	1,671,851	1,372	1,584,226	2,335	3,256,077
Windsor.....	291	711,858	379	498,550	670	1,210,408
Manitoba (Churchill)	36	139,830	—	—	36	139,830
British Columbia²	12,230	19,655,986	42,688	27,592,511	54,918	47,248,497
Nanaimo.....	740	772,420	3,735	5,935,457	4,475	6,707,877
New Westminster.....	766	1,611,149	2,792	1,255,180	3,558	2,866,329
Ocean Falls.....	45	201,602	774	677,095	819	878,697
Port Alberni.....	184	595,717	642	259,111	826	854,828
Powell River.....	232	306,425	3,590	1,037,863	3,822	1,344,288
Prince Rupert.....	1,180	456,293	1,792	780,104	2,972	1,236,397
Union Bay.....	7	1,761	296	58,864	303	60,625
Vancouver.....	3,609	7,344,458	21,286	12,820,482	24,895	20,164,940
Victoria.....	3,967	6,978,963	4,223	3,195,630	8,190	10,174,593
Grand Totals	34,079	54,767,687	84,890	64,291,085	118,969	119,058,772

¹ Sea-going and inland international.² Includes small ports not shown separately.

4.—Cargoes at Canadian Ports Loaded or Unloaded from Vessels in Foreign Service by Province 1952-54

Province and Year	Loaded	Unloaded	Province, Territory and Year	Loaded	Unloaded
	tons	tons		tons	tons
Newfoundland—			Ontario—		
1952.....	2,069,750	698,138	1952.....	6,113,558	23,881,456
1953.....	2,742,764	671,606	1953.....	6,320,032	23,808,278
1954.....	2,702,943	790,442	1954.....	4,959,342	17,670,912
Prince Edward Island—			Manitoba—		
1952.....	76,248	18,246	1952.....	283,157	14,997
1953.....	55,173	27,741	1953.....	322,551	2,784
1954.....	51,581	29,021	1954.....	367,511	4,685
Nova Scotia—			British Columbia—		
1952.....	3,987,639	2,373,939	1952.....	8,507,443	3,236,052
1953.....	4,138,305	2,115,749	1953.....	8,871,878	3,140,263
1954.....	4,107,616	1,980,140	1954.....	8,810,720	2,115,586
New Brunswick—			Yukon and N.W.T.—		
1952.....	2,274,696	619,443	1952.....	258	8
1953.....	1,643,060	636,729	1953.....	—	3
1954.....	1,334,504	741,042	1954.....	—	—
Quebec—			Totals—		
1952.....	9,241,694	7,913,927	1952.....	32,554,443	38,756,206
1953.....	8,108,442	8,288,724	1953.....	32,202,205	38,691,877
1954.....	8,396,138	8,942,338	1954.....	30,730,355	32,274,166

Subsection 2.—Harbours

Water transportation cannot be studied with any degree of completeness without taking into consideration the co-ordination of land and water transportation at many of the ports. Facilities provided to enable interchange movements include the necessary docks and wharves, some for passenger traffic but most of them for freight, warehouses for the handling of general cargo, and special equipment for such bulk freight as lumber, coal, oil, grain, etc. Facilities may include cold storage warehouses, harbour railway and switching connections, grain elevators, coal bunkers, oil storage tanks and, in the chief harbours, dry dock accommodation.

Eight of the principal harbours of Canada are administered by the National Harbours Board. Seven other harbours come under the supervision of the Department of Transport and are administered by commissions that include municipal as well as Federal Government appointees. In addition there are about 300 public harbours that are under the direct supervision of the Department of Transport. These harbours are administered under rules and regulations approved by the Governor General in Council. Harbour masters have been appointed by the Minister of Transport for 131 of these harbours, their remuneration being made from fees levied on vessels under the terms of the Canada Shipping Act.

At most ports, in addition to the harbour facilities operated by the National Harbours Board or other operating commission, there are dock and handling facilities owned by private companies such as railway, pulp and paper, oil, sugar industries, etc. At a number of ports there are also dry docks but these are dealt with separately at p. 835.

5.—Facilities of the Six Principal Harbours as at Dec. 31, 1954

NOTE.—The facilities at these ports include those under the control of other agencies as well as those of the National Harbours Board.

Item	Halifax	Saint John	Quebec	Three Rivers	Montreal	Vancouver
Minimum depth of approach channel ft.	50	30	35	35	35	40
Harbour railway..... miles	31	63	23	5	62	75
Piers, wharves, jetties, etc..... No.	84	23	39	19	111	102
Length of berthing..... ft.	33,236	14,450	33,650	8,690	53,060	31,440
Transit-shed floor space.....sq. ft.	1,379,732	918,200	691,000	265,250	2,225,000	1,450,600
Cold storage warehouse capacity....cu. ft.	1,719,000	820,000	528,000	—	2,909,200	3,031,417
Grain Elevators—						
Capacity..... bu.	4,152,000	3,000,000	4,000,000	5,000,000 ¹	15,162,000	18,716,500
Loading rate..... bu. per hr.	75,000	150,000	90,000	32,000	445,000	312,000
Floating crane capacity..... tons	80	65	75	—	75	85
Coal dock storage capacity..... tons	57,400	—	215,000	300,000	1,380,000	—
Oil tank storage capacity..... gal.	138,211,000	22,526,610	108,200,000	1,410,000	68,000,000	204,949,498

¹ Includes a 3,000,000 bu. grain-storage shed connected with the elevator.

National Harbours Board.—The National Harbours Board, a Crown corporation established in 1936, is charged with the administration and operation of the following properties: port facilities such as wharves and piers, transit sheds, grain elevators, cold storage warehouses, terminal railways, etc., at the harbours of Halifax, Saint John, Chicoutimi, Quebec, Three Rivers, Montreal, Vancouver, and Churchill; grain elevators at Prescott and Port Colborne; and the Jacques Cartier Bridge at Montreal. These facilities represent a capital investment of approximately \$245,000,000. Current operating revenues and expenditures are given in Table 29, pp. 852-853.

Harbour Traffic.—The freight movement through a large port takes a number of different forms. The overseas movement, i.e., the freight loaded on and unloaded from sea-going vessels, frequently constitutes a surprisingly small part of the total. Usually the volume coming in and going out by coasting vessels is larger. There is, as well, the in-transit movement in vessels that pass through the harbour without loading or unloading and the movement from one point to another within the harbour, which in many ports amounts to a large volume. It is not possible to obtain statistics of the total freight handled at all the ports and harbours of Canada because many of them are small and without the staff necessary to maintain detailed records. However the National Harbours Board prepares an annual report of the water-borne cargo loaded and unloaded at the eight ports under its control. Six of these are the principal ports of Canada and the cargo handled at each is shown in Table 6. The figures include freight carried by coasting and inland international as well as by sea-going shipping; they include all cargo loaded and unloaded whether by facilities under the jurisdiction of the Board or at private docks and terminals. Cross-harbour movements, ballast (non-revenue), bunkers, ships' stores, mail and passengers' baggage are not included.

6.—Principal Commodities in Water-Borne Cargo Loaded and Unloaded at each of the Six Principal Ports 1954 with Totals for 1953

NOTE.—Commodities totalling less than 50,000 tons are not listed.

Port and Commodity	1954			1953
	Inward	Outward	Total	Total
	tons	tons	tons	tons
Montreal—				
Grain.....	2,835,201	2,700,741	5,535,942	7,034,004
Petroleum oil, fuel.....	854,395	1,483,968	2,338,363	2,014,212
Petroleum oil, crude.....	1,215,553	320,512	1,536,065	1,242,540
Coal, bituminous.....	1,383,956	92,220	1,476,176	1,140,915
Gasoline.....	102,770	693,915	796,685	840,864
Cement, common or portland.....	264,947	147,528	412,475	337,728
Flour, wheat.....	5	384,114	384,119	436,477
Gypsum, crude.....	322,631	30,026	352,657	267,239
Sugar, raw.....	348,061	—	348,061	317,107
Iron ore.....	101,371	101,235	202,606	172,942
Coal, anthracite.....	179,036	5,084	184,120	266,646
Iron or steel, scrap.....	11,107	124,635	135,742	191,879
Phosphate rock.....	124,804	—	124,804	108,627
Petroleum oil, refined, <i>n.o.p.</i>	33,194	79,021	112,215	126,755
Lumber (planks, boards and flooring) and square timber.....	19,082	59,157	78,239	72,922
Copper, refined, in bars, billets, cakes, cathodes, ingots or slabs.....	—	76,891	76,891	38,486
Asbestos and asbestos manufactures.....	3,969	65,862	69,831	79,753
Molasses.....	50,397	13,215	63,612	51,323
Chrome ore.....	36,381	26,783	63,164	120,850
Iron or steel manufactures, <i>n.o.p.</i>	52,060	7,958	60,018	54,065
Wood pulp.....	6,982	50,299	57,281	73,573
Motor vehicles and parts.....	25,175	30,136	55,311	64,059
Machinery and parts (except agricultural).....	31,462	23,294	54,756	57,632
Glass and glass manufactures.....	46,866	3,226	50,092	55,207
Totals, Commodities over 50,000 tons in 1954.....	8,050,005	6,519,820	14,569,825	15,165,805
Totals, All Commodities.....	8,859,959	7,298,464	16,158,423	16,899,341
Vancouver—				
Grain.....	—	2,947,336	2,947,336	2,998,958
Logs, masts, piling, pitprops, poles, posts, spars and ties (railway).....	1,187,537	127,739	1,315,276	1,100,436
Lumber (planks, boards and flooring) and square timber.....	533,724	643,626	1,177,350	913,216
Petroleum oil, fuel.....	443,689	403,276	846,965	1,008,547
Sand and gravel.....	560,784	1,727	562,511	531,434
Gasoline.....	129,481	323,300	452,781	554,857
Petroleum oil, crude.....	275,103	—	275,103	917,948
Wood pulp.....	247,814	9,818	257,632	220,051
Flour, wheat.....	49	248,303	248,352	304,045
Hog fuel.....	—	208,846	208,846	128,405
Paper, newsprint.....	168,681	11,469	180,150	149,595
Cement, common or portland.....	164,433	15,593	180,026	189,579
Rock and stone.....	10,713	160,482	171,195	161,990
Pulpwood.....	—	106,044	106,044	48,595
Kerosene.....	46,773	57,592	104,365	152,048
Ores and concentrates, <i>n.o.p.</i>	87,463	1,062	88,525	104,478
Iron or steel tubes, pipe and fittings.....	83,954	2,376	86,330	73,081
Paper, <i>n.o.p.</i>	60,734	22,280	83,014	82,060
Coal, bituminous.....	35,675	43,000	78,675	77,327
Sugar, raw.....	77,313	—	77,313	80,224
Motor vehicles and parts.....	58,292	9,038	67,330	107,750
Iron or steel band, bars, <i>n.o.p.</i> , hoop, plates, rods, sheets, skelp, strip and tin plate.....	57,120	429	57,549	36,978
Fish (including shell-fish), canned or preserved.....	22,067	34,740	56,807	51,585
Lime.....	50,989	410	51,399	45,185
Chemicals, <i>n.o.p.</i>	29,953	21,015	50,968	42,553
Totals, Commodities over 50,000 tons in 1954.....	4,332,341	5,399,501	9,731,842	10,080,925
Totals, All Commodities.....	5,281,909	6,207,166	11,489,075	11,836,533

6.—Principal Commodities in Water-Borne Cargo Loaded and Unloaded at each of the Six Principal Ports 1954 with Totals for 1953—concluded

Port and Commodity	1954			1953
	Inward	Outward	Total	Total
	tons	tons	tons	tons
Halifax—				
Petroleum oil, fuel.....	525,870	617,862	1,143,732	1,041,208
Petroleum oil, crude.....	1,030,051	—	1,030,051	1,246,583
Gasoline.....	336,894	102,429	529,323	644,379
Grain.....	60	144,333	144,393	425,409
Flour, wheat.....	175	113,928	114,103	130,403
Fish (including shell-fish), dried, pickled, salted or smoked..	36,454	62,607	99,061	91,281
Lumber (planks, boards and flooring) and square timber....	1,260	86,769	88,029	49,992
Coal, bituminous.....	85,997	3	86,000	117,561
Aluminum, in bars, billets, blocks, ingots, pigs, rods, sheets or slabs.....	86	54,502	54,588	6,655
Totals, Commodities over 50,000 tons in 1954.....	2,016,847	1,272,433	3,289,280	3,753,471
Totals, All Commodities.....	2,355,345	1,613,752	3,969,097	4,402,716
Quebec—				
Pulpwood.....	655,253	—	655,253	633,156
Petroleum oil, fuel.....	639,553	2,088	641,641	575,678
Grain.....	256,819	263,811	520,630	861,900
Gasoline.....	310,970	1,749	312,719	266,366
Coal, bituminous.....	275,682	656	276,338	324,141
Asbestos and asbestos manufactures.....	—	145,832	145,832	107,792
Paper, newsprint.....	—	132,015	132,015	93,223
Cement, common or portland.....	105,045	2,845	107,890	85,876
Ores and concentrates, <i>n.o.p.</i>	2,932	82,788	85,720	59,914
Totals, Commodities over 50,000 tons in 1954.....	2,246,254	631,784	2,878,038	3,008,046
Totals, All Commodities.....	2,399,878	735,321	3,135,199	3,256,548
Three Rivers—				
Pulpwood.....	1,729,367	—	1,729,367	1,311,899
Grain.....	251,870	261,924	513,794	816,161
Coal, bituminous.....	348,846	—	348,846	371,505
Petroleum oil, fuel.....	254,159	15,244	269,403	186,358
Paper, newsprint.....	—	160,778	160,778	163,907
Gasoline.....	56,076	2,039	58,115	64,882
Totals, Commodities over 50,000 tons in 1954.....	2,640,318	439,985	3,080,303	2,914,712
Totals, All Commodities.....	2,708,718	512,795	3,221,513	3,044,056
Saint John—				
Petroleum oil, fuel.....	341,475	51,025	392,500	265,287
Grain.....	2	347,140	347,142	660,923
Gasoline.....	178,127	50,598	228,725	143,156
Sugar, raw.....	203,619	93	203,712	185,055
Flour, wheat.....	1	112,909	112,910	147,144
Lumber (planks, boards and flooring) and square timber....	14,362	94,145	108,507	93,340
Paper, newsprint.....	—	72,825	72,825	69,307
Motor vehicles and parts.....	49,857	13,644	63,501	51,432
Wood pulp.....	505	62,444	62,949	31,651
Fertilizers and fertilizer materials.....	52,317	666	52,983	77,248
Totals, Commodities over 50,000 tons in 1954.....	840,265	805,489	1,645,754	1,724,543
Totals, All Commodities.....	1,091,918	1,113,406	2,205,324	2,474,858

Dry Docks.—The Department of Public Works of the Federal Government operates five dry docks—one at Kingston, Ont., two at Lauzon, Que., and two at Esquimalt, B.C. The dock at Kingston is under lease to the Kingston Shipbuilding Company. The old Esquimalt dry dock was temporarily transferred to the Department of National Defence on Nov. 1, 1934 and, when commercially required, it will be returned to the control of the Department of Public Works. Each of the large dry docks at Lauzon, Que., and Esquimalt, B.C., can be divided for use of small vessels; the larger Lauzon dock cost approximately \$4,500,000 and the larger Esquimalt dock approximately \$7,000,000.

7.—Dimensions of Graving Docks Owned by the Federal Government

Location	Length	Width at—			Depth of Water on Sill	Rise of Tide	
		Coping	Bottom	Entrance		Spring	Neap
	ft.	ft.	ft.	ft.	ft.	ft.	ft.
Lauzon, Que., <i>Champlain</i>	1,150-0	120-0	105-0	120-0	40-0 H.W.	18	13-3
Lauzon, Que., <i>Lorne</i>	600-3	100-0	59-5	62-0	25-7 H.W.	18	13-3
Esquimalt, B.C. (old dock).....	450-8 ¹	90-0	41-0	65-0	28-8 H.W. ²	7 to 10	3 to 8
Esquimalt, B.C.....	1,173-8	149-0	126-0	135-0	40-0 H.W.	7 to 10	3 to 8
Kingston, Ont.....	353-5	55-0	47-0	55-0	16-8½ L.W.	—	—

¹ Face of caisson to vertical face at head, 481-0 ft.; length of pad on which keel blocks rest, 403-5 ft. ² Over keel blocks at H.W. 10 ft., tide 26-1 ft.

8.—Dimensions and Cost of Graving Docks Subsidized under the Dry Docks Subsidies Act 1910

Location	Length	Width	Depth Over Sill	Total Cost	Subsidy
	ft.	ft.	ft.	\$	
Collingwood No. 1, Ont.....	518-3	59-8	15-5	500,000	3 p.c. for 20 years ¹
Collingwood No. 2, Ont.....	412-0	95-0	16-0	306,965	3 p.c. for 20 years ¹
Port Arthur, Ont.....	701-0	77-5	16-2	1,258,050	3 p.c. for 20 years ¹
Montreal, Que. (floating dock), <i>Duke of Connaught</i>	601-0	98-0	38-0	3,000,000	3½ p.c. for 35 years ¹
Prince Rupert, B.C. (floating dock).....	604-0	100-0	28-0 ²	2,199,168	3½ p.c. for 35 years ¹
Saint John, N.B.....	1,157-8	131-5	40-3	5,500,000	4½ p.c. for 35 years
North Vancouver, B.C. (floating dock).....	556-5	98-0	34-5 ³	2,500,000	4½ p.c. for 35 years

¹ Subsidy payments have been completed.

² 28 ft. over blocks.

³ Over sill (H.W.).

Subsection 3.—Canals*

The canals and canalized waters of Canada, under the jurisdiction of the Department of Transport, comprise a series of waterways providing navigation for 1,875 miles inland from salt water. The canals may be divided into two classes: (1) the main or primary canals on the St. Lawrence River and the Great Lakes, including the Lachine, Soulanges, Cornwall and Williamsburg Canals on the St. Lawrence River, the Welland Ship Canal between Lakes Ontario and Erie, and the Sault Ste. Marie Canal between Lakes Huron and Superior; and (2) subsidiary or secondary canals including the St. Peters Canal between Bras d'Or Lake, Cape Breton and the Atlantic Ocean, the St. Ours and Chambly Canals on the Richelieu River, the Ste. Anne, Carillon and Grenville Canals on the Ottawa River, the Rideau Canal between the Ottawa River and Lake Ontario and the Trent and Murray Canals between Lake Ontario and Georgian Bay.

During 1954, 30,070,701 tons of freight and 25,292 vessels passed through the canals as compared with 33,373,064 tons of freight and 27,563 vessels during the peak year 1953. In addition to freight and passenger vessels, thousands of pleasure craft are locked through the canals. Vessels locking at Sault Ste. Marie during 1954 carried 115,014 passengers as compared with 105,366 in 1953.

* A special article on the Canals of the St. Lawrence Waterway appears in the 1954 Year Book, pp. 830-833.

Revenue from canals during the year ended Mar. 31, 1955 amounted to \$1,599,329 of which \$1,144,083 was derived from rentals for hydraulic and land privileges and wharfage. In the previous fiscal year the total revenue was \$1,594,891 with rentals and wharfage amounting to \$1,237,648.

The canals under the jurisdiction of the Department of Transport are listed, with their locations, lengths and lock complement in Table 9. In addition to these the Federal Department of Public Works administers the St. Andrews Lock (length, width and draught, respectively, 215, 45 and 17 feet) at Selkirk, Man., on the Red River, and the lock at Poupore, Que. A few small locks are operated by provincial authorities.

9.—Lengths of Channels and Dimensions of Locks under the Control of the Department of Transport as at Mar. 31, 1954

Name	Location	Length of Channel	Locks			
			No.	Minimum Dimensions		
				Length	Width	Depth
		miles		ft.	ft.	ft.
Main Route Canals						
St. Lawrence and Great Lakes—						
Lachine.....	Montreal to Lachine.....	8.74	5	270	45	14
Soulanges.....	Cascades Point to Coteau Landing.....	14.67	5	280	46	14
Cornwall.....	Cornwall to Dickinson Landing.....	11.00	6	270	43-67	14
Farran's Point.....	Farran's Point Rapids.....	1.28	1	800	50	16
Rapide Plat.....	Rapide Plat, Morrisburg.....	3.89	2	270	45	14
Galop.....	Iroquois to Cardinal.....	7.36	3	270	45	14
Welland Ship.....	Port Weller, Lake Ontario, to Port Colborne, Lake Erie.....	27.60	8	859	80	23.5
Sault Ste. Marie.....	St. Mary's Rapids, Sault Ste. Marie.....	1.38	1	900	60	18-25
Subsidiary Canals or Branches						
Atlantic Ocean to Bras d'Or Lakes—						
St. Peters.....	St. Peters Bay to Bras d'Or Lakes, Cape Breton, N.S.....	0.50	1	300	47.4	17
Richelieu River—						
St. Ours.....	St. Ours, Que.....	0.12	1	339	45	12
Chambly.....	Chambly to St. Johns, Que.....	11.78	9	120.5	23-25	6.5
Ottawa and Rideau Rivers—						
Ste. Anne.....	Junction of St. Lawrence and Ottawa Rivers.....	0.12	1	200	45	9
Carillon.....	Carillon Rapids, Ottawa River.....	0.94	2	200	45	9
Grenville.....	Long Sault Rapids, Ottawa River.....	5.94	5	200	45	9
Rideau.....	Ottawa to Kingston.....	123.53	47	134	33	5.5
	Rideau Lake to Perth (Tay Branch).....	6.82	2	134	33	5.5
Lake Ontario to Georgian Bay—						
Trent.....	Trenton to Peterborough lock, Peterborough.....	88.74	18	175	33	8 ¹
	Peterborough lock to Swift Rapids.....	135.71	24	134	33	6
	Swift Rapids to Big Chute.....	8.00	...	...	...	6
	Big Chute to Port Severn.....	8.11	1	100	25	6
	Sturgeon Lake to Lindsay (Seugog Branch).....	10.00	1	142	33	6
	Lindsay to Port Perry (Seugog Branch).....	25.00	—	—	—	4.5
Murray.....	Isthmus of Murray, Bay of Quinte.....	7.53	—	—	—	8-5 ²
Total		508.76				

¹ Notice must be given by vessels of more than six foot draught.

² With Lake Ontario at elevation at 243 feet.

Canal Traffic.—The extent to which the United States shares in the traffic passing through Canadian canals is shown in Table 10 while a broad classification of the products carried is given in Table 11 and direction of traffic in Table 12.

10.—Traffic through Canadian Canals by Nationality of Vessel and Origin of Freight, Navigation Seasons 1945-54

NOTE.—Figures include duplications where cargoes use two or more canals. Figures from 1886 are available in the corresponding table of previous Year Books beginning with the 1902 edition.

Navigation Season	Nationality of Vessel				Origin of Freight Carried				
	Canadian		United States ¹		Canada		United States ¹		Total
	Vessels	Registered Tonnage	Vessels	Registered Tonnage	Tons	P.C. of Total	Tons	P.C. of Total	Tons
	No.	No.	No.	No.					
1945.....	21,064	19,068,308	1,553	3,426,069	10,491,263	47-0	11,829,136	53-0	22,320,399
1946.....	17,199	16,206,415	1,794	3,221,008	8,904,733	47-7	9,750,186	52-3	18,654,919
1947.....	18,542	18,613,576	2,332	3,796,293	10,288,481	47-8	11,225,458	52-2	21,513,939
1948.....	19,859	19,723,768	2,784	4,219,539	11,169,714	47-4	12,389,599	52-6	23,559,313
1949.....	21,724	20,773,831	2,495	3,260,038	14,800,509	60-7	9,573,243	39-3	24,373,752
1950.....	21,179	21,989,263	3,241	3,514,202	15,138,009	55-2	12,301,067	44-8	27,439,076
1951.....	22,141	22,951,468	3,407	4,297,672	16,004,284	54-6	13,320,750	45-4	29,325,034
1952.....	22,565	25,608,373	3,757	4,201,005	17,245,051	55-0	14,109,088	45-0	31,354,139
1953.....	23,378	29,335,644	4,185	4,037,420	18,464,479	55-3	14,908,585	44-7	33,373,064
1954.....	21,066	25,931,368	4,266	4,139,333	17,237,542	57-3	12,833,159	42-7	30,070,701

¹ Figures include a few vessels and a small tonnage of freight of other foreign nationalities.

11.—Tonnage of Products carried by Canal by Class of Commodity, Navigation Season 1954

NOTE.—Figures include duplications where cargoes use two or more canals.

Canal	Agricultural Products	Animal Products	Manufactures and Miscellaneous	Forest Products	Mineral Products	Total
	tons	tons	tons	tons	tons	tons
Sault Ste. Marie.....	1,197,741	138	625,626	175,688	264,013	2,263,206
Welland Ship.....	5,339,371	2,864	3,169,288	516,001	7,618,446	16,645,970
St. Lawrence River.....	4,176,493	3,609	1,561,001	525,312	2,025,461	8,291,876
Richelieu River.....	1,307	—	28,565	—	3,611	33,483
St. Peters.....	759	1,413	607	7	156	2,942
Murray.....	—	—	—	—	—	—
Ottawa River.....	—	—	215	—	190,545	190,760
Rideau.....	—	—	85	74	1,303	1,462
Trent.....	—	—	125	10	—	135
St. Andrews.....	94	2,120	1,973	70	—	4,257
Totals.....	10,715,765	10,144	5,387,485	1,217,162	10,103,535	27,434,091

12.—Canal Traffic by Direction and Origin, Navigation Season 1954

NOTE.—Figures include duplications where cargoes use two or more canals.

Canal	From Canadian to Canadian Ports		From Canadian to United States Ports ¹		From United States to United States Ports ¹		From United States ¹ to Canadian Ports	
	Up	Down	Up	Down	Up	Down	Up	Down
	tons	tons	tons	tons	tons	tons	tons	tons
Sault Ste. Marie.....	538,024	1,166,558	3,891	518,583	84,556	22,090	219,519	54,747
Welland Ship.....	951,282	5,290,387	820,584	82,692	601,792	931,892	22,133	8,813,496
St. Lawrence River.....	1,930,395	4,765,171	781,074	96,458	161,493	237,751	100,744	1,563,948
Richelieu River.....	56,600	4,841	28,565	434	—	—	—	18,998
St. Peters.....	1,594	1,637	—	—	—	—	—	—
Murray.....	72	200	—	—	—	—	—	—
Ottawa River.....	445	190,150	—	215	—	—	—	—
Rideau.....	357	1,133	—	—	—	—	—	—
Trent.....	45	125	—	—	—	—	—	—
St. Andrews.....	2,429	3,601	—	—	—	—	—	—
Totals.....	3,481,243	11,423,803	1,634,114	698,382	847,841	1,191,733	342,396	10,451,189

¹ Figures for the United States include small amounts of traffic from other foreign countries.

12.—Canal Traffic by Direction and Origin, Navigation Season 1954—concluded

Canal	Traffic by Direction		Origins of Cargo		Total Cargo 1954	Total Cargo 1953
	Up	Down	Canada	United States ¹		
	tons	tons	tons	tons	tons	tons
Sault Ste. Marie.....	845,990	1,761,978	2,227,056	380,912	2,607,968	3,389,409
Welland Ship.....	2,395,791	15,118,467	7,144,945	10,369,313	17,514,258	19,542,150
St. Lawrence River.....	2,973,706	6,663,328	7,573,098	2,063,936	9,637,034	10,081,992
Richelieu River.....	85,165	24,273	90,440	18,998	109,438	94,379
St. Peters.....	1,594	1,637	3,231	—	3,231	3,841
Murray.....	72	200	272	—	272	676
Ottawa River.....	445	190,365	190,810	—	190,810	243,032
Rideau.....	357	1,133	1,490	—	1,490	1,531
Trent.....	45	125	170	—	170	239
St. Andrews.....	2,429	3,601	6,030	—	6,030	15,815
Totals.....	6,305,594	23,765,107	17,237,542	12,833,159	30,070,701	33,373,064

¹ Figures for the United States include small amounts of traffic from other foreign countries.

The figures in Tables 11 and 12 include duplications where the same freight passes through two or more canals, but in Table 13 duplications in the traffic passing through the St. Lawrence and Welland Ship Canals and the Canadian lock at Sault Ste. Marie have been eliminated wherever possible.

Grain trans-shipped at Georgian Bay, Lake Erie, or other ports above Montreal is treated as new cargo and as most of this grain has passed through either the Canadian or United States locks at Sault Ste. Marie there are still duplications in the data because of this treatment. These duplications cannot be avoided when net totals for the Canadian canals are computed because it is impossible to ascertain which lock at Sault Ste. Marie was used by the grain reloaded at Port Colborne, Ont., or other trans-shipping port.

13.—St. Lawrence-Great Lakes Traffic using St. Lawrence, Welland Ship and Sault Ste. Marie Canals 1954

Canals Used	Up-bound Freight	Down-bound Freight	Total
	tons	tons	tons
Traffic using Canadian Canals.....	4,610,618	22,489,137	27,099,755
St. Lawrence only.....	1,714,532	3,311,716	5,026,248
St. Lawrence and Welland Ship.....	1,136,745	2,790,873	3,927,618
St. Lawrence, Welland Ship and Sault Ste. Marie.....	111,978	370,374	482,352
Welland Ship only.....	913,351	6,506,662	7,420,013
Welland Ship and Sault Ste. Marie.....	233,717	5,450,558	5,684,275
Sault Ste. Marie only.....	500,295	4,058,954	4,559,249
Traffic using United States Locks at Sault Ste. Marie only.....	9,353,426	73,453,955	82,807,381
Totals, Canal Traffic.....	13,964,044	95,943,092	109,907,136

Traffic through the Sault Ste. Marie canals, Canadian and United States, has been approximately twice as heavy as the traffic through the Panama Canal during the latest ten years for which records are available. Canal traffic has varied from 20,484,000 tons in 1932, which was less than the Panama traffic, to 109,907,136 tons in 1954. The dominant traffic from a tonnage aspect is iron ore which has fluctuated from a low of 3,607,000 tons in 1932 to a high of 98,657,591 tons in 1953. The 1954 tonnage was 62,583,469.

Soft coal has usually been second in volume to iron ore, increasing from 8,676,297 tons during the 1949 season to 13,301,048 tons in 1950; succeeding years brought declines to 8,609,598 tons in 1953 and 7,397,623 tons in 1954.

Although wheat ranks third in tonnage, its value over the past quarter-century has been greater generally than that of either iron ore or coal. Other grains have been about one-quarter to one-fifth of the wheat tonnage and a smaller ratio of the value.

The Panama Canal.—The Panama Canal, which was opened to commercial traffic on Aug. 15, 1914, has been a waterway of great importance to the ports of British Columbia, from which vessels leave direct for United Kingdom and other European ports throughout the year. As an alternative route to that of the transcontinental railway lines this water passage is of vital importance in the solution of the larger transportation problems of the Continent. During World War I the great expectations based upon the opening of the Canal were not realized, owing to the scarcity of shipping. However with the postwar decline in ocean freight rates, an increase in traffic between Canada's Pacific ports and Europe took place and, while the proportion carried in vessels of Canadian registry was comparatively small, the cargo tonnage nevertheless assumed considerable proportions. During World War II the volume of Canadian traffic through the Canal was again reduced but has since increased considerably.

14.—Traffic to and from the East and West Coasts of Canada via the Panama Canal, Years Ended June 30, 1946-55

NOTE.—Figures from 1921 are given in the corresponding table of previous Year Books beginning with the 1938 edition.

Year	Originating on—		Destined for—		Year	Originating on—		Destined for—	
	West Coast	East Coast	West Coast	East Coast		West Coast	East Coast	West Coast	East Coast
	long tons	long tons	long tons	long tons		long tons	long tons	long tons	long tons
1946.....	1,756,989	184,850	111,161	62,516	1951.....	2,910,246	240,904	372,534	142,741
1947.....	2,981,348	316,898	132,521	99,745	1952.....	3,644,888	287,872	281,960	114,319
1948.....	2,824,394	244,121	162,561	67,215	1953.....	3,560,925	532,810	341,548	219,567
1949.....	2,298,492	188,506	154,524	145,477	1954.....	4,153,577	398,778	402,335	230,295
1950.....	2,707,047	185,076	226,673	143,395	1955.....	4,109,456	301,450	427,825	303,585

15.—Commercial Traffic through the Panama Canal, Years Ended June 30, 1946-55

NOTE.—Figures from 1915 are given in the corresponding table of previous Year Books beginning with the 1938 edition.

Year	Atlantic to Pacific		Pacific to Atlantic		Totals	
	Vessels	Cargo Tonnage	Vessels	Cargo Tonnage	Vessels	Cargo Tonnage
	No.	long tons	No.	long tons	No.	long tons
1946.....	1,516	6,118,085	2,231	8,859,855	3,747	14,977,940
1947.....	2,021	8,294,820	2,239	13,375,698	4,260	21,670,518
1948.....	2,286	8,679,140	2,392	15,438,648	4,678	24,117,788
1949.....	2,387	9,899,088	2,406	15,406,070	4,793	25,305,158
1950.....	2,689	9,483,863	2,759	19,388,430	5,448	28,872,293
1951.....	2,784	11,132,472	2,809	18,940,550	5,593	30,073,022
1952.....	3,184	15,128,995	3,340	18,481,514	6,524	33,610,509
1953.....	3,674	17,329,066	3,736	18,766,283	7,410	36,095,349
1954.....	3,852	18,377,724	3,932	20,717,343	7,784	39,095,067
1955.....	4,002	18,419,006	3,995	22,227,295	7,997	40,646,301

Subsection 4.—Aids to Navigation

Included under aids to navigation are the lighthouses and the whole system of marine danger signals on the east and west coasts of Canada, on Hudson Bay and Strait, the St. Lawrence River and Gulf, the inland rivers and lakes, and at the entrances to harbours—a very extensive system designed to provide safe navigation in all Canadian waters. In addition a pilotage service is maintained in waters where navigation is difficult; this service is described under Marine Services at p. 843. A further aid to safe navigation is found

in the chains of radio signal and direction-finding stations described under radiotelegraphy at p. 883. Lists of aids to navigation, with the exception of very minor ones, are published by the Department of Transport.

16.—Marine Danger Signals maintained in Canada, Years Ended Mar. 31, 1949-55

NOTE.—In addition to the aids to navigation listed, approximately 9,300 unlighted buoys, balises, dolphins and beacons are maintained. Lists of marine danger signals maintained from 1929 are given in the corresponding table of previous Year Books beginning with the 1941 edition.

Type of Signal	1949	1950	1951	1952	1953	1954	1955
	No.	No.	No.	No.	No.	No.	No.
Lights.....	2,491	2,778	2,841	2,861	2,901	2,876	3,003
Lightships.....	8	8	8	8	7	6	7
Light-keepers.....	1,094	1,416	1,353	1,131	1,154	1,083	1,084
Fog whistles.....	11	18	22	23	24	18	19
Sirens.....	2	3	3	3	3	4	5
Diaphones.....	176	207	212	213	216	211	235
Fog bells.....	38	43	44	46	46	49	54
Hand fog horns.....	137	134	133	127	124	122	127
Hand fog bells.....	10	10	10	12	12	12	12
Lighted and combination lighted whistling and bell buoys.....	585	618	655	681	719	778	946
Whistling buoys.....	39	38	38	37	37	36	32
Bell buoys.....	113	109	110	113	112	115	117
Fog guns and bombs.....	11	11	10	9	8	9	7
Fog alarm stations only.....	11	15	15	15	15	15	17

Navigable waters have been improved greatly by dredging in channels and harbours, by the removal of obstructions, and by the building of remedial works to maintain or control water levels. Incidental to these developments of navigable waters are works to guard shorelines and prevent erosion, and for the control of roads and bridges that cross navigable channels. Ice-breaking operations are carried on at the beginning and at the end of winter to prolong the season of navigation in important waters that freeze over—particularly in connection with sea-going shipping from Montreal, Que.—and to prevent flood conditions during the spring ice break-up.

St. Lawrence River Ship Channel.—This channel extends from about 40 miles below Quebec City to the foot of Lachine Canal at Montreal, a distance of 200 miles. About 113 miles of this distance is dredged channel.

Above Quebec the channel has a limiting depth of 35 feet at extreme low water and a minimum width of 550 feet, with additional width up to 1,500 feet at all curves and difficult points and additional anchorage and turning areas. This section comprises about 100 miles of dredged channel. Below Quebec the limiting depth of dredged channel, about 13 miles in length, is 30 feet at low tide, with a width of 1,000 feet. An average tidal range of 15 feet in this area provides ample depth for any vessel using the St. Lawrence route. Maintenance requirements owing to silting in this dredged channel are relatively minor above Quebec but below the city silting is more pronounced because of tidal action.

The ship channel is well defined by buoys, and the centre by range lights permitting uninterrupted day and night navigation throughout the open season from about mid-April to early December. The movements of all shipping, weather and ice conditions and obstructions to traffic throughout the St. Lawrence waterway from Fame Point, Que., to Kingston, Ont., are recorded and made available to all concerned through a series of reporting stations known as the Marine Reporting Service.

A fleet of ice-breaking vessels is maintained to facilitate the movement of shipping between Montreal and the sea during the opening and closing of navigation, and to alleviate flood conditions in low lying areas.

17.—Seasons of Open Navigation on the St. Lawrence Ship Channel 1936-55

NOTE.—Figures from 1882 are given in the corresponding table of previous Year Books, beginning with the 1934-35 edition.

Year	Channel Open, Quebec to Montreal ¹	First Arrival from Sea, Montreal Harbour	Last Departure for Sea, Montreal Harbour	Year	Channel Open, Quebec to Montreal ¹	First Arrival from Sea, Montreal Harbour	Last Departure for Sea, Montreal Harbour
1936.....	Mar. 28	Apr. 13	Dec. 11	1946.....	Apr. 1	Apr. 12	Dec. 18
1937.....	Apr. 9	" 19	" 8	1947.....	" 16	" 19	" 5
1938.....	" 12	" 18	" 4	1948.....	" 10	" 19	" 10
1939.....	" 29	" 29	" 12	1949.....	" 7	" 7	" 15
1940.....	" 23	" 24	" 5	1950.....	" 18	" 18	" 7
1941.....	" 14	" 19	" 17	1951.....	" 11	" 13	" 13
1942.....	" 17	May 2	" 16	1952.....	" 12	" 13	" 10
1943.....	" 29	" 24	" 13	1953.....	Mar. 30	" 2	" 21
1944.....	" 20	Apr. 21	" 9	1954.....	Apr. 15	Mar. 30	" 15
1945.....	" 1	" 9	" 3	1955.....	" 17	Apr. 5	" 15

¹ "Channel Open" means the route can be navigated although there may be floating ice in the river.

Subsection 5.—Marine Services of the Federal Government

The services covered in this Subsection deal with steamship inspection, pilotage service, sea-faring personnel and the operations of the Canadian National (West Indies) Steamships Limited.

Steamship Inspection.—The Steamship Inspection Service, provided for under Part VII of the Canada Shipping Act 1934, is responsible for the administration and carrying out of the provisions of the Act respecting the periodic inspection of power-driven ships and the issue of inspection certificates; the assignment of load lines; the conditions under which dangerous goods may be carried in ships; the protection against accident of workers employed in loading and unloading ships; and also for the administration and carrying out of the provisions relating to the certification and employment of marine engineers. The Service has a headquarters staff at Ottawa and staffs of inspectors at the principal ocean and inland ports.

The Board of Steamship Inspection decides on questions arising out of the administration of the Act and takes care of the interests of the Federal Government in schools for marine engineers. A matter of recent concern has been the pollution of the sea by oil, and an international conference of the world's leading maritime nations, at which Canada was represented by the Chairman of the Board of Steamship Inspection, was held at London, England, in April 1954 for the purpose of deciding on measures to deal with this problem. A Convention was drawn up at the Conference and signed by the Canadian delegate, subject to ratification by the Canadian Government.

18.—Summary Statistics of Steamship Inspection, Year Ended Mar. 31, 1954

Port	Vessels subject to Inspection when in Commission		Vessels Inspected				Vessels Not Inspected	
			Registered or Owned in Canada		Registered or Owned Elsewhere			
	No.	gross tonnage	No.	gross tonnage	No.	gross tonnage	No.	gross tonnage
St. John's, Nfld.....	159	37,106	159	37,106	—	—	—	—
North Sydney, N.S.....	31	13,024	29	12,632	—	—	2	392
Halifax, N.S.....	187	218,127	181	202,909	—	—	6	15,218
Saint John, N.B.....	61	26,806	60	25,114	1	1,692	—	—
Quebec, Que.....	91	108,970	87	108,724	—	—	4	246
Sorel, Que.....	80	30,587	56	24,121	—	—	24	6,466
Montreal, Que.....	159	336,315	77	184,249	2	36,153	80	115,913
Kingston, Ont.....	59	58,092	59	58,092	—	—	—	—
Toronto, Ont.....	125	212,128	122	211,768	—	—	3	360
St. Catharines, Ont.....	54	110,388	54	110,388	—	—	—	—
Collingwood, Ont.....	35	40,710	33	40,632	—	—	2	78
Midland, Ont.....	77	20,314	64	19,272	—	—	13	1,042
Port Arthur, Ont.....	133	30,845	43	23,464	—	—	90	7,381
Vancouver, B.C.....	400	146,901	358	130,409	1	7,459	41	9,033
Victoria, B.C.....	78	80,888	62	70,210	—	—	16	10,678
Totals	1,729	1,471,201	1,444	1,259,090	4	45,304	281	166,807

Pilotage.—Pilotage service functions under the provisions of Part VI of the Canada Shipping Act. Wherever a pilotage district has been created by the Governor in Council, qualified pilots are licensed by the pilotage authority of the district. There are in Canada 42 pilotage districts in nine of which the Minister of Transport is the pilotage authority (see Table 19); in each of the other districts the authority is a local body appointed by the Governor in Council.

19.—Pilotage Service by Districts, Years Ended Mar. 31, 1953 and 1954

District	1953		1954	
	Ships	Net Registered Tonnage	Ships	Net Registered Tonnage
	No.		No.	
Bras d'Or Lake, N.S.....	52	236,916	98	250,030
Sydney, N.S.....	2,146	3,814,195	2,104	3,447,810
Halifax, N.S.....	3,126	11,391,993	3,129	11,264,230
Saint John, N.B.....	1,456	4,170,954	1,339	3,846,955
Quebec, Que.....	4,956	16,731,634	5,591	17,871,838
Montreal, Que.....	7,053	16,648,762	7,546	16,805,802
St. Lawrence-Kingston-Ottawa, Ont.....	..	..	..	..
Churchill, Man.....	54	194,464	62	244,586
British Columbia.....	3,993	11,893,990	5,157	16,769,914
Totals.....	22,836	65,082,908	25,026	70,501,135

In addition there are 21 districts in Newfoundland under local pilotage authority. These districts are administered under Newfoundland statutes which, since the date of union with Canada, come under federal jurisdiction. Part VI of the Canada Shipping Act with respect to pilotage has not been proclaimed in force in Newfoundland.

Seamen Engaged and Discharged.—Seamen engaged and discharged at Canadian ports under the provisions of the Canada Shipping Act during the years ended Mar. 31, 1945-54 are shown in Table 20.

20.—Seamen Engaged and Discharged at Canadian Ports, Years Ended Mar. 31, 1945-54

NOTE.—Figures from 1918 are given in the corresponding table of previous Year Books beginning with the 1941 edition.

Year	Seamen Engaged	Seamen Discharged	Year	Seamen Engaged	Seamen Discharged
	No.	No.		No.	No.
1945.....	29,230	25,056	1950.....	43,677	43,194
1946.....	30,361	27,042	1951.....	40,241	40,535
1947.....	43,973	42,205	1952.....	43,724	40,664
1948.....	59,768	60,793	1953.....	42,723	36,610
1949 ¹	50,379	49,544	1954.....	42,837	43,142

¹ Newfoundland included from Apr. 1, 1949.

Canadian National (West Indies) Steamships Limited.— In conformity with the Canada-West Indies Trade Agreement of 1926 (16-17 Geo. V, c. 16) the Federal Government has provided direct steamship services to the West Indies through the medium of Canadian National (West Indies) Steamships Limited.

At the end of 1954 the Canadian National Steamships owned and operated eight vessels in service between Canada and the British West Indies.

21.—Financial Statistics of Canadian National (West Indies) Steamships Limited 1945-54

NOTE.—Figures for the years 1929-38 are given in the 1942 Year Book, p. 620, and for 1939-44 in the 1950 edition, p. 777.

Year	Operating Revenue	Operating Expenditure	Operating Net	Depreciation	Interest	Book Loss or Surplus
	\$	\$	\$	\$	\$	\$
1945.....	4,412,252	2,569,626	+1,842,626	279,466	612,999	+1,116,086
1946.....	6,669,129	4,671,148	+1,997,981	288,092	596,499	+1,302,052
1947.....	7,857,471	6,534,600	+1,322,871	493,594	573,298	+522,677
1948.....	7,964,720	6,828,392	+1,136,328	492,222	563,794	+166,044
1949.....	6,595,007	5,985,873	+609,134	492,222	577,410	-460,498
1950.....	5,124,200	5,220,806	-96,606	371,699	560,462	-1,028,767
1951.....	6,808,478	6,337,987	+470,491	371,699	565,784	-466,992
1952.....	7,449,247	6,605,514	+843,733	372,392	475,250	-3,909
1953.....	4,509,342	4,892,150	-382,808	268,772	475,250	-1,126,830
1954.....	5,105,082	5,424,983	-319,901	269,031	475,250	-628,410

Subsection 6.—The St. Lawrence Seaway

The St. Lawrence Seaway and the St. Lawrence Power Project were given special treatment in separate articles in the 1955 Year Book, at pp. 885-888 and 549-553 respectively. The following material, giving a brief look at the Seaway project as at the beginning of May 1956, has been extracted from the St. Lawrence Seaway Authority releases.

A little over a year from the time the first blast was set off marking the beginning of work for excavation of 7,600 feet of the Seaway channel and construction of protecting dyke on the south shore of the St. Lawrence River near Montreal, construction contracts valued at nearly \$80,000,000 had been awarded by the St. Lawrence Seaway Authority. The total cost of works undertaken by Canada for Seaway navigation is estimated at approximately \$200,000,000, and that for the United States at about \$100,000,000.

Of the Canadian total, \$122,000,000 in contracts will be awarded in the Lachine Section, for it is there that the major construction works for Seaway navigation facilities will be brought into being.

At present the navigation picture is as follows: (1) from the Gulf of St. Lawrence to Montreal, a distance of 1,000 miles, controlling navigation channels are 35 feet in depth; (2) from Montreal to Lake Ontario, a distance of 180 miles, controlling navigation channels are 14 feet; (3) from Lake Ontario to Lake Erie, a distance of 200 miles, controlling navigation channels are 25 feet; (4) from Lake Erie to the head of the Lakes, a distance of 970 miles, controlling navigation channels are 25 feet downbound and 21 feet upbound.

Between the highly developed inland route through the Great Lakes which has a minimum channel depth of 21 feet and the ocean port facilities of Montreal lies the 114 mile International section of the St. Lawrence River navigable only through a chain of outmoded 14 foot canals capable of handling ships with a maximum capacity of but 3,000 tons. The Seaway project is basically designed to break this bottleneck and to extend deepsea facilities into the heart of industrial North America.

For practical purposes the Seaway has been divided, from Lake Ontario to the Port of Montreal, into five sections: (1) the Thousand Islands section; (2) the International Rapids section; (3) the Lake St. Francis section; (4) the Soulanges section; and (5) the Lachine section. To these may be added a sixth section—from the Welland Canal to Lake Erie. The progress in each of these six sections is given briefly in the following paragraphs.

Thousand Islands Section.—A small amount of dredging is necessary at an approximate cost of \$2,500,000; this work is to be undertaken by the United States.

International Rapids Section.—This key section is in international territory and here \$600,000,000 will be spent, the greater part of it for hydro power installations undertaken jointly by The Hydro-Electric Power Commission of Ontario and the Power Authority of the State of New York. The project consists of: (1) A dam in the Long Sault Rapids and two powerhouses a short distance below the rapids, one on the Canadian side and one on the American side, each capable of developing 1,100,000 h.p. This dam will flood communities on both sides of the River—on the Canadian side for a distance of approximately thirty miles by a width of one to three or four miles. (2) A control dam near Iroquois Point to control the level of the pool and to protect the downriver interests at Montreal. (3) Side canals on the United States mainland to carry navigation around the Long Sault dam and a side canal on the Canadian side to circumnavigate the control dam at Iroquois. (4) Dykes where necessary. The average elevation along the front from Cornwall to Prescott, now 220 feet above sea level, will be raised to between 238 to 242 feet. Therefore when work has been completed 20,000 acres of land will have been flooded, two towns and six villages will have disappeared and 6,500 persons will be established in entirely new towns now rising along the projected shoreline.

The Canadian share in the work in the International section at the present time is the construction, by the St. Lawrence Seaway Authority, of a canal and lock at Iroquois required to bypass the control dam. Work has now been going on for over a year and 40 p.c. of the excavation has been completed. The work is slightly behind schedule. Also near Cornwall, Canada is co-operating with the United States in the construction of a combined railway and highway bridge across the international channel of the St. Lawrence River at Polleys Gut.

Lake St. Francis Section.—In the Lake St. Francis section which includes about 15 miles of river, dredging will be undertaken in three locations at a total cost of \$6,000,000 for the purpose of deepening the channels in these locations to a depth of 27 feet. Thirty per cent of the excavation has been completed and the work is ahead of schedule.

Soulanges Section.—The Soulanges section covers that portion of the River between the upper end of Lake St. Louis and the lower end of Lake St. Francis. The work to be done includes the construction of two locks separated by a three-quarter-mile intermediate

pool and three lift bridges. No. 3 Highway which follows the shore of Lake St. Louis will be carried under the lower lock in a four-lane divided tunnel. A contract has been awarded for the excavation for the main highway diversion tunnel; the Lake St. Louis cofferdam, and the excavation for the Seaway channel and work is getting under way.

Lachine Section.—The Lachine section, covering the reach from Lake St. Louis to Montreal Harbour, is the most costly and most complicated part of the whole Seaway in Canadian territory. Here will be built a 16 mile canal with considerable channel enlargement extending from above Caughnawaga in Lake St. Louis to the entrance to Montreal Harbour. Two locks will be built, one at St. Lambert near Victoria Bridge, the other at Côte Ste. Catherine opposite the Lachine rapids. Three turning basins will be constructed, one in Montreal Harbour and two in Laprairie Basin, to permit the free movement of ships. Four major rail and highway bridges across the St. Lawrence in the Montreal region will have to be modified to provide a minimum of 120 foot clearance over the channel.

Construction is actively under way in this whole area. Nine general contracts amounting to \$45,000,000 have been let and only three others are required to complete the Lachine section. Progress is well ahead of schedule. At the start of this second year of construction work on the Seaway the Lachine section is roughly 10 p.c. completed by dollar value, with two and a half years to go.

Welland Section.—Improvements in the Welland Ship Canal will extend the 27 foot passage into Lake Erie. With its seven locks, 859 feet long, 80 feet wide and 30 feet over the sills, 27 foot navigation is already provided for 17 of its 28 miles. Three excavation contracts have been let and two of them have been completed. Three additional dredging contracts required to finish the work in the Welland section can be performed without interruption of traffic movement.

As the 1956 navigation season opens, the pace of construction steps up. Men and machines are busy night and day on land and water from the harbour of Montreal to the eastern reaches of Lake Ontario and in the Welland district, working toward the completion of this great project by 1958. It will then be possible for large lake carriers to go down to Montreal and for ocean-going vessels to voyage inland to such important lake ports as Toronto, Hamilton, Buffalo, Cleveland, Toledo, Detroit, Chicago and the lakehead ports of Duluth, Superior, Fort William and Port Arthur. The benefits to be derived from adequate navigation and power have unlimited ramifications, not only regional but national and international, which will be reflected in lower unit prices for goods, more purchasing power, development of secondary industry as well as a busier economy and more traffic of every kind throughout Canada and much of the United States.

Section 2.—Financial Statistics of Waterways

The principal statistics available of the cost of water-borne traffic consist of the record of public expenditure on waterways. Such expenditure may be classified as capital expenditure, or investment and expenditure for maintenance and operation. Revenue from operation is also recorded. The major part of the capital expenditure for the permanent improvement of waterways is provided by the Federal Government. Capital expenditure by municipalities and private capital expenditure is confined almost entirely to terminal or dockage facilities. On the other hand investment in shipping has come almost entirely from private sources. No figures are available regarding private investment in shipping except those appearing in the reports of the operating companies that cover only a portion of the field. There are no statistics showing the revenue of ship operators from passenger and freight traffic.

Capital Expenditure.—The only figures available of federal capital expenditure on Canadian waterways are those compiled from the *Public Accounts* and the annual reports of the Departments of Transport, Public Works and Finance. It must be realized that

such expenditure cannot be regarded as any indication of the present worth of the undertakings represented. The cost of building canals and other waterways and permanent works to facilitate water transportation in Canada is represented in such reports at their original book values, no deductions having been made from the cumulative totals for depreciation from year to year or for abandonment of earlier works which have been superseded, as for instance, in the first Welland Canals. To this extent such figures are an over-statement of the present value of the works in use. The figures are further limited by the fact that they do not include the cost of maintenance and improvements or the operation of these works, such charges having been made to the consolidated deficit account as annual expenditure and not to capital account. Table 22 shows that capital expenditure on canals, marine services and miscellaneous water-transport facilities reached the grand total of \$441,853,124 by the end of March 1954, but this must be interpreted with the above qualifications in mind. In Table 23 the capital values of the fixed assets administered by the National Harbours Board are shown as at Dec. 31, 1953 and 1954, and are in addition to the capital expenditure of Table 22. Figures in Table 23 reflect the capital situation in regard to the national harbours of Canada far better than do those of Table 22 in the case of waterways and facilities, inasmuch as they include all buildings, machinery and durable plant improvements; they also have been subject to deductions for depreciation and the scrapping or abandonment of plant and therefore more nearly approach the present value of the properties under the administration of the National Harbours Board.

22.—Capital Expenditure of the Federal Government on Canals, Marine Services and Miscellaneous Water-Transport Facilities as at Mar. 31, 1953 and 1954

NOTE.—Compiled from annual reports of the Department of Transport and the *Public Accounts*.

Canals and Marine Services	Expenditure			Canals, Marine Services and Miscellaneous Facilities	Expenditure		
	Years ended Mar. 31—		Total to Mar. 31, 1954		Years ended Mar. 31—		Total to Mar. 31, 1954
	1953	1954			1953	1954	
Canals	\$	\$	\$	Canals—concluded	\$	\$	\$
Quebec Canals—				Ontario—conc.			
Beauharnois (old)	—	Cr. 550 ¹	1,622,419	Murray.....	—	—	1,248,947
Carillon and Gren-				Welland Ship.....	Cr. 12,814 ¹	Cr. 15,656 ¹	131,772,804
ville.....	—	—	4,191,727	Prior Welland			
Chambly				Canals.....	Cr. 20,955 ¹	Cr. 550 ¹	27,247,546
(Richelieu R.)..			780,619	Canals generally..	—	—	34,967
Lachine.....	Cr. 428,446 ¹	Cr. 11,923 ¹	13,578,092	Adjustment			
Lake St. Francis..	—	—	75,907	suspense.....	—	—	165,361
Lake St. Louis...	—	—	298,176	Totals, Canals..	Cr. 462,510¹	Cr. 30,079¹	242,990,404
Soulanges.....	—	—	7,897,119	Marine Services			
Ste. Anne.....	—	—	1,320,216	Marine Service			
St. Ours.....	—	—	735,964	steamers.....	4,797,774	1,564,863	25,173,208
Ontario—				River St. Lawrence			
St. Lawrence				Ship Channel			
Canals—				contract dredging	3,133,302	4,399,988	109,549,385
Cornwall.....	—	—	7,233,823	Totals, Marine	7,931,076	5,964,851	134,722,593
Williamsburg				Services.....			
Canals.....	—	—	1,334,552	Miscellaneous			
Farran's Point...	—	—	877,091	Facilities ²			
Rapide Plat....	—	—	2,159,881	Bare Point break-			
Galop.....	—	—	6,143,468	water.....	—	—	217,996
Galop Channel..	—	—	1,039,896	Burlington Bay			
North Channel..	—	—	1,995,143	Canal.....	—	—	308,328
River Reaches...	—	—	483,830	Burlington Channel			
St. Peters, N.S..	—	—	648,547	improvements...	13,015	60,774	1,547,778
Culbute Lock and				Cape Tormentine			
Dam (Ottawa				Harbour.....	—	49,868	144,868
R.).....	—	—	382,391				
Rideau.....	—	—	4,213,961				
Tay.....	—	—	489,599				
St. Lawrence Ship							
(surveys).....	—	—	133,897				
Sault Ste. Marie..			4,935,809				
Trent.....	Cr. 295 ¹	Cr. 1,400 ¹	19,948,652				

For footnotes, see end of table.

22.—Capital Expenditure of the Federal Government on Canals, Marine Services and Miscellaneous Water-Transport Facilities as at Mar. 31, 1953 and 1954—concluded

Miscellaneous Facilities	Expenditure			Miscellaneous Facilities	Expenditure		
	Years ended Mar. 31—		Total to Mar. 31, 1954		Years ended Mar. 31—		Total to Mar. 31, 1954
	1953	1954			1953	1954	
	\$	\$	\$		\$	\$	\$
Miscellaneous Facilities² —continued				Miscellaneous Facilities² —concluded			
Esquimalt graving dock.....	148,214	172,223	8,498,195	Tiffin Harbour im- provements.....	—	—	481,622
Georgian Bay to Montreal water- way survey.....	—	—	918,797	Toronto Harbour improvements...	35,156	118,995	11,078,014
Halifax elevator site.....	—	—	86,512	Upper St. Law- rence River Channel im- provements.....	—	—	468,098
Kingston graving dock.....	15,849	—	572,438	Victoria, B.C., Harbour im- provements.....	30,205	173,561	5,550,767
Lake St. Peter.....	—	—	1,164,235	Victoria, Ont., Harbour im- provements.....	3,575	—	767,119
Lévis graving dock	326,957	260,886	2,727,790	Totals, Miscellaneous..	2,250,490	1,109,320	64,140,127
Miscellaneous wharves.....	—	—	1,005,929				
Port Arthur, Fort William and River Kaminis- tikwia im- provements.....	1,451,701	—	21,672,195	Summary			
Port Colborne Harbour.....	33,945	—	1,161,565	Canals.....	Cr. 462,510	Cr. 30,079	242,990,404
Rainy River Lock and Dam.....	—	—	134	Marine Services...	7,931,076	5,964,851	134,722,593
Sorel Harbour im- provements.....	89,757	190,825	3,584,635	Miscellaneous facilities.....	2,250,490	1,109,320	64,140,127
St. Andrews Ra- pids and Red River im- provements.....	102,116	82,188	2,183,112	Grand Totals...	9,719,056	7,044,092	441,853,121

¹ Sales of property, stone, etc.² These are works not covered elsewhere in these tables and are shown in the *Public Accounts* as schedules to the Balance Sheet of the Government of Canada.

23.—Capital Values of Fixed Assets administered by the National Harbours Board as at Dec. 31, 1953 and 1954

NOTE.—Compiled from the annual reports of the National Harbours Board.

Item	1953	1954	Item	1953	1954
	\$	\$		\$	\$
Harbour dredging.....	12,199,603	12,199,603	Central heating plants.....	128,073	126,383
Real estate.....	12,387,040	12,407,750	Harbour shops.....	270,336	293,116
Vehicular bridges.....	201,976	201,976	Electric power systems.....	1,271,591	1,331,410
Roads, fences and boundaries.....	2,020,710	2,031,602	Water supply systems.....	978,867	1,020,703
Sewers and drains.....	830,429	830,429	Floating equipment.....	2,210,961	2,214,604
Miscellaneous structures.....	734,222	730,179	Shore equipment.....	986,557	879,581
Wharves and piers.....	91,941,026	95,382,114	Miscellaneous small plant...	614,341	662,425
Permanent sheds.....	24,061,431	26,697,507	Engineering — general surveys.....	109,441	109,441
Shed hoists and electrical cranes.....	315,314	406,545	Works under construction...	6,449,189	6,929,211
Railway systems.....	6,423,469	6,590,212	Sundry expenditure—undistributed.....	3,769,450	3,769,450
Grain elevator systems.....	41,778,429	43,547,608	Bridge construction, right-of-way, etc.....	18,568,155	18,568,155
Cold storage systems.....	5,936,207	6,046,462			
Office furniture and appliances.....	210,223	221,732			
Harbour buildings.....	1,766,280	2,027,900	Totals.....	236,163,320	245,236,098

24.—Amounts Advanced by the Federal Government to the National Harbours Board for Capital Expenditure 1952-54

NOTE.—Compiled from the annual reports of the National Harbours Board.

Harbours and Properties	1952	1953	1954	Harbours and Properties	1952	1953	1954
	\$	\$	\$		\$	\$	\$
Halifax.....	322,169	882,145	859,767	Port Colborne elevator	—	2,183	27,625
Saint John.....	721,455	2,536,408	1,384,263	Churchill.....	2,234	182,055	767,834
Chicoutimi.....	—	—	—	Vancouver.....	307,399	589,559	258,090
Quebec.....	139,667	776,682	802,273				
Three Rivers.....	—	109,395	348,405	Totals.....	2,147,032	5,761,819	7,823,816
Montreal.....	654,158	689,389	3,389,559				

Waterway Expenditure and Revenue on Consolidated Fund Account.—

Expenditure under this heading (Tables 25 to 27) is mainly for the operation and maintenance of various facilities for water transport but, unfortunately, the line between operation and maintenance expenditure is not as finely drawn as is desirable. Revenue in connection with waterways of the Department of Transport and the Department of Public Works is shown in Table 28.

To facilitate water transportation, the Federal Government expends annually in addition to the recurrent expenditure shown here, a considerable amount to cover deficits of the Canadian National (West Indies) Steamships Limited and of the National Harbours Board and for mail subsidies and steamship subventions as shown in Table 30. Operating expenditure and revenue of facilities administered by the National Harbours Board are shown separately in Table 29.

25.—Expenditure on Canals Charged to Consolidated Deficit Account, Years Ended Mar. 31, 1953 and 1954

NOTE.—Compiled from the annual reports of the Department of Transport.

Canal	Expenditure on Improvements			Canal	Expenditure on Improvements		
	Year Ended Mar. 31, 1953	Year Ended Mar. 31, 1954	Total to Mar. 31, 1954		Year Ended Mar. 31, 1953	Year Ended Mar. 31, 1954	Total to Mar. 31, 1954
	\$	\$	\$		\$	\$	\$
Main Canals—				Secondary Canals—			
Quebec Canals—				Carillon and Grenville.	5,395	96,794	1,216,404
Beauharnois (old)....	32,138	39,997	460,579	Chambly (Richelieu R.).....	27,989	13,452	1,355,421
Hungry Bay Dyke.....	—	—	55,659	Rideau and Tay.....	41,771	34,330	1,430,596
Lachine.....	2,862,394	1,659,624	14,069,429				
Lake St. Francis.....	—	—	55,324	Ste. Anne.....	—	1,585	234,397
Quebec Dredging				St. Ours (Richelieu R.).....	—	113	217,745
Fleet.....	12,769	8,975	206,893	St. Peters, N.S.....	4,452	—	966,294
Soulanges.....	94,733	34,657	911,938	Trent.....	262,537	144,365	5,351,658
Superintending				Murray.....	1,422	18,472	240,881
Engineer.....	—	—	2,174				
Ontario-St. Lawrence Canals.....	—	—	336,906	Miscellaneous—			
Cornwall.....	385,167	146,231	1,990,754	Bay Verte, Chignecto..	—	—	44,388
Williamsburg.....	410,679	159,715	1,131,932	Culbute lock and dam.	—	—	60,923
Welland Canals—				Surveys and inspections	—	—	572,990
Welland Ship.....	236,017	386,432	2,786,868	Canals generally.....	—	—	190,509
Prior Welland Canals.	—	—	2,650,121				
Sault Ste. Marie.....	4,229	22,957	659,826	Totals.....	4,381,692	2,767,699	37,200,609

**25.—Expenditure on Canals Charged to Consolidated Deficit Account,
Years Ended Mar. 31, 1953 and 1954—concluded**

Canal	Expenditure on Operation and Maintenance		Canal	Expenditure on Operation and Maintenance	
	Year ended Mar. 31, 1953	Year ended Mar. 31, 1954		Year ended Mar. 31, 1953	Year ended Mar. 31, 1954
	\$	\$		\$	\$
Administration, Ottawa.....	112,881	117,065	St. Peters, N.S.....	37,499	42,133
Quebec Canals—			Rideau and Tay Canals.....	408,798	426,802
Head Office.....	59,684	73,591	Sault Ste. Marie.....	160,013	176,014
Beauharnois (old).....	12,499	6,899	Trent.....	439,153	469,835
Carillon and Grenville.....	127,387	138,252	Murray.....	28,280	29,291
Chambly (Richelieu R.).....	179,210	191,712	Welland Canals.....	1,495,720	1,646,445
Hungry Bay and Ste. Barbe Dykes.....	5,007	5,638	St. Lawrence Ship Canal surveys, etc.....	71,653	596,765
Lachine.....	1,156,128	839,507	Totals.....	5,597,215	6,228,644
Quebec dredging fleet.....	35,901	31,071			
Soulanges.....	395,451	441,797			
Ste. Anne.....	22,979	24,409			
St. Ours (Richelieu R.).....	30,926	35,639			
Ontario-St. Lawrence Canals—					
Head Office.....	100,957	108,126			
Cornwall.....	475,641	535,878			
Williamsburg Canals.....	241,448	291,775			

**26.—Marine Service Expenditure Charged to Consolidated Deficit Account,
Years Ended Mar. 31, 1953 and 1954**

NOTE.—Compiled from annual reports of the Department of Transport.

Marine Services	1953	1954	Marine Services	1953	1954
	\$	\$		\$	\$
Marine Services—			Steamship Inspection.....	509,550	546,903
Administration, including agencies.....	549,578	578,437	Marine Service Steamers—		
Aids to navigation (construc- tion, maintenance and super- vision).....	5,840,716	5,830,375	Administration.....	61,109	91,451
Nautical Services—			Operation and maintenance...	4,663,095	5,380,385
Administration.....	142,578	133,542	Marine Signal Service.....	185,705	188,158
Administration, operation and maintenance, including grants.....	287,542	275,474	River St. Lawrence Ship Channel Service—		
Machinery and equipment....	56,774	—	Administration, operation and maintenance.....	874,332	678,406
Pilotage Service—			Surveys and investigations...	28,839	35,580
Administration.....	468,731	500,853	Totals.....	13,749,083	14,297,616
Construction.....	78,434	—			
Pensions to former pilots....	2,100	2,052			
Halifax Pilots' Pension Fund.	—	56,000			

27.—Expenditure on Waterways Charged to Consolidated Fund Account by Department of Public Works, Years Ended Mar. 31, 1953 and 1954

NOTE.—Compiled from the annual reports of the Departments concerned by the Comptroller of the Treasury, Department of Finance.

Year and Item	Dredging ¹	Construction	Improvements and Repairs	Staff and Sundries	Total
	\$	\$	\$	\$	\$
1953					
Harbours and Rivers—					
Newfoundland.....	723,645	512,063	1,422,746	159,890	2,818,344
Prince Edward Island.....	392,562	377,305	995,641	74,615	1,840,123
Nova Scotia.....	935,620	1,022,506	1,413,871	155,115	3,527,112
New Brunswick.....	894,717	608,345	425,141	343,356	2,271,559
Quebec.....	933,945	2,786,031	1,359,330	520,078	5,599,384
Ontario.....	627,290	3,247,890	648,114	471,272	4,994,566
Manitoba.....	140,232	72,811	95,248	126,779	435,070
Saskatchewan.....	—	12,045	248	5,591	17,884
Alberta.....	27,311	2,661	29,103	84,734	143,809
British Columbia.....	664,777	2,134,644	1,323,122	733,599	4,856,142
Yukon Territory.....	19,569	—	159,983	5,348	184,900
Northwest Territories.....	75,673	47,684	46,570	—	169,927
General.....	—	—	—	138	138
Totals, Harbours² and Rivers.....	5,435,341	10,823,985	7,919,117	2,680,515	26,858,958
Dredging plant.....	—	410,285	62,082	—	472,347
Roads and bridges.....	—	110,680	145,353	43,234	299,267
Totals, 1953.....	5,435,341	11,344,930	8,126,553	2,723,749	27,630,573
1954					
Harbours and Rivers—					
Newfoundland.....	630,848	1,129,384	584,586	179,161	2,523,979
Prince Edward Island.....	352,534	1,013,712	346,468	71,185	1,783,899
Nova Scotia.....	976,338	1,861,780	1,510,131	173,489	4,521,738
New Brunswick.....	472,003	1,811,037	387,553	358,604	3,029,197
Quebec.....	871,490	6,288,880	829,798	576,491	8,566,659
Ontario.....	847,406	3,367,467	425,451	479,753	5,120,077
Manitoba.....	309,757	101,495	15,951	138,477	565,680
Saskatchewan.....	—	13,169	24,234	1,526	38,929
Alberta.....	80,019	8,328	10,647	95,455	194,449
British Columbia.....	2,135,158	2,765,431	561,092	1,024,054	6,485,735
Yukon Territory.....	—	224,156	—	6,613	230,769
Northwest Territories.....	71,930	161,946	1,196	42,872	277,944
Totals, Harbours² and Rivers.....	6,747,483	18,746,785	4,697,107	3,147,680	33,339,055
Roads and bridges.....	—	—	120,252	38,950	159,202
Totals, 1954.....	6,747,483	18,746,785	4,817,359	3,186,630	33,498,257

¹ Expenditure for dredging plants in 1954 has been included in dredging column for each province.

clusive of harbours under the National Harbours Board as shown in Table 29.

² Ex-

28.—Revenue of the Federal Government in Connection with Waterways, Years Ended Mar. 31, 1953 and 1954

NOTE.—Compiled from annual reports of the Department of Transport.

Item	1953	1954	Item	1953	1954
	\$	\$		\$	\$
Department of Transport			CANAL SERVICES—continued		
CANAL SERVICES			Beauharnois.....	49,435	49,160
Lachine.....	351,754	327,733	Quebec dredging fleet.....	5	203
Soulanges.....	2,944	2,828	Cornwall.....	54,890	55,176
Chambly.....	3,336	4,736	Williamsburg.....	11,859	11,167
Ste. Anne.....	250	278	St. Peters, N.S.....	310	546
St. Ours.....	329	365	Welland Canals.....	925,783	995,544
Carillon and Grenville.....	1,121	1,113	Sault Ste. Marie.....	4,041	2,697
			Rideau and Tay Canals.....	15,583	18,925

**28.—Revenue of the Federal Government in Connection with Waterways,
Years Ended Mar. 31, 1953 and 1954—concluded**

Item	1953	1954	Item	1953	1954
	\$	\$		\$	\$
Department of Transport—conc.			BOARD OF TRANSPORT COMMISSIONERS		
CANAL SERVICES—conc.			Licences to ships.....	1,577	1,758
Trent.....	95,464	91,708	Sale of publications.....	237	473
Murray.....	556	701	Sundries.....	—	16
Sale of publications.....	38	33	Refunds of previous year's expenditure.....	—	686
Miscellaneous.....	168	47			
Refunds previous year's expenditure.....	14,411	2,072	TOTALS, BOARD OF TRANSPORT COMMISSIONERS.....	1,814	2,933
TOTALS, CANAL SERVICES.....	1,532,277	1,565,032	Totals, Department of Transport.....	2,176,549	2,242,441
			Department of Public Works		
MARINE SERVICES			EARNINGS OF DRY DOCKS		
Fines and forfeitures.....	20,447	14,070	Champlain Dock, Lauzon, Que....	87,888	52,646
Steamship inspection.....	180,689	155,627	Lorne Dock, Lauzon, Que.....	33,052	39,376
Wharf revenue.....	245,357	282,524	Esquimalt new dock.....	194,258	119,679
Harbour dues.....	64,381	71,016	Esquimalt old dock.....	—	—
Measuring surveyor's fees.....	488	339	Selkirk repair slip.....	3,781	1,723
Examinations — masters' and mates' fees.....	7,423	7,068	TOTALS, EARNINGS.....	318,979	213,424
Pilots' licence fees (pilotage).....	317	577	WORKS AND PLANTS LEASED		
Pilotage dues.....	7,933	11,685	Kingston dry dock.....	9,025	12,100
Shipping fees.....	3,566	3,711	Ferry privileges.....	355	392
Marine steamer earnings.....	56,958	50,512	Dredges and plants.....	46,439	17,503
Signal station dues.....	1,409	1,503	TOTALS, LEASED.....	55,819	29,995
Rentals—water lots and lighthouse sites.....	15,857	25,299	Rents from water lots, etc.....	28,808	22,769
Rentals—miscellaneous.....	850	—	Refunds against expenditure re- ported in previous years.....	47,539	62,427
Sale of land, buildings, etc.....	6,009	7,863	Sundry receipts.....	14,693	14,464
Merchant seamen's identity certi- ficates.....	2,698	2,180	Totals, Dept. of Public Works	465,838	343,079
Miscellaneous.....	7,070	22,834			
Refunds previous year's expend- iture.....	21,006	17,668			
TOTALS, MARINE SERVICES.....	642,458	674,476			

**29.—Operating Revenue and Expenditure of Harbours, Elevators and Bridges
under the National Harbours Board 1950-54**

Harbour and Year	Operating Revenue	Operating Expend- iture	Operating Income	Harbour and Year	Operating Revenue	Operating Expend- iture	Operating Income
	\$	\$	\$		\$	\$	\$
Halifax—				Chicoutimi—			
1950.....	1,158,425	895,757	262,668	1950.....	69,816	22,172	47,644
1951.....	1,338,348	1,044,779	293,569	1951.....	82,416	29,185	53,231
1952.....	1,606,576	1,251,530	355,046	1952.....	86,450	26,037	60,413
1953.....	1,671,954	1,224,866	447,088	1953.....	94,202	49,680	44,522
1954.....	1,665,862	1,208,840	457,022	1954.....	101,304	29,523	71,781
Saint John—				Quebec—			
1950.....	627,860	511,328	116,532	1950.....	978,667	818,594	160,073
1951.....	728,648	576,255	152,393	1951.....	1,415,577	1,217,085	198,492
1952.....	906,517	661,184	245,333	1952.....	1,722,137	2,130,402	—408,265
1953.....	864,760	697,702	167,058	1953.....	1,829,632	1,447,599	382,033
1954.....	755,026	743,135	11,891	1954.....	1,771,347	1,376,327	395,020
Montreal—				Jacques Cartier Bridge (Montreal)			
1950.....	6,324,037	3,500,606	2,823,431	1950.....	1,231,537	148,385	1,083,152
1951.....	7,478,227	4,053,329	3,424,898	1951.....	1,413,381	168,165	1,245,216
1952.....	8,692,656	4,567,823	4,124,833	1952.....	1,599,684	197,162	1,402,522
1953.....	9,064,500	4,945,382	4,119,118	1953.....	1,734,087	206,563	1,527,524
1954.....	8,166,370	4,609,110	3,557,260	1954.....	1,811,523	220,917	1,590,606

**29.—Operating Revenue and Expenditure of Harbours, Elevators and Bridges
under the National Harbours Board 1950-54—concluded**

Harbour and Year	Operating Revenue	Operating Expend- iture	Operating Income	Harbour and Year	Operating Revenue	Operating Expend- iture	Operating Income
	\$	\$	\$		\$	\$	\$
Three Rivers—				Churchill—			
1950.....	265,209	64,159	201,050	1950.....	368,472	556,659	-188,187
1951.....	296,923	37,168	259,755	1951.....	409,141	463,887	-54,746
1952.....	336,628	63,584	273,044	1952.....	480,345	532,432	-52,087
1953.....	320,823	83,040	237,783	1953.....	621,027	544,747	76,280
1954.....	344,180	52,668	291,512	1954.....	732,762	623,026	109,736
Port Colborne Elevator—				Second Narrows Bridge (Vancouver)—			
1950.....	588,357	325,954	262,403	1950.....	283,319	92,908	190,411
1951.....	630,423	394,843	235,580	1951.....	¹	¹	¹
1952.....	860,348	485,315	375,033				
1953.....	1,048,208	565,268	482,940				
1954.....	799,384	493,400	305,984				
Prescott Elevator—				Vancouver—			
1950.....	283,680	143,904	139,776	1950.....	2,985,966	1,594,580	1,391,386
1951.....	276,544	159,139	117,405	1951.....	3,305,429	1,853,730	1,451,699
1952.....	479,079	208,977	270,102	1952.....	3,528,272	2,063,370	1,464,902
1953.....	635,565	249,378	386,187	1953.....	3,147,259	1,689,025	1,458,234
1954.....	1,035,271	397,744	637,527	1954.....	3,075,642	1,764,794	1,310,848

¹ Reverted to former owners in 1951.

Shipping Subsidies.—Table 30 shows the amounts of steamship subventions paid in connection with contracts made under statutory authority for coastal and inland water-shipping services. The payment of these subventions is administered by the Canadian Maritime Commission.

30.—Steamship Subventions, Years Ended Mar. 31, 1954 and 1955

Services	1954	1955
	\$	\$
Pacific Coast Services—		
Vancouver and northern ports of British Columbia and Queen Charlotte Islands....	345,000	325,000
Victoria and west coast of Vancouver Island.....	17,499	—
Eastern Services—		
Baddeck and Iona, N.S.....	14,500	14,500
Campobello, N.B., and Lubec, Maine.....	6,600	6,600
Cross Point, Que., and Campbellton, N.B.....	70,000	60,000
Dalhousie, N.B., and Miguasha, Que.....	19,000	19,000
Grand Manan and the mainland, N.B.....	95,000	95,000
Halifax, Canso and Guysborough, N.S.....	20,000	23,000
Halifax, Torbay, Ile Madame and ports on west coast of Cape Breton Island, N.S....	15,000	17,000
Ile-aux-Coudres and Les Eboulements, Que.....	15,000	15,000
Ile-aux-Grues and Montmagny, Que. (summer).....	2,500	2,500
Ile-aux-Grues and Montmagny, Que. (winter).....	—	1,700
Mulgrave and Arichat, N.S.....	31,000	31,000
Mulgrave and Canso, N.S.....	82,000	82,000
Mulgrave, Guysborough and Queensport, N.S.....	21,255	22,000
Murray Bay and north shore St. Lawrence, Que. (winter service).....	50,000	50,000
Owen Sound and ports on Manitoulin Island and Georgian Bay, Ont.....	69,553	81,511
Pelee Island and the mainland, Ont.....	35,000	35,000
Pictou, Mulgrave and Cheticamp, N.S.....	13,500	13,500
Pictou, N.S., Charlottetown, P.E.I., and Magdalen Islands, Que.....	120,000	120,000
Prescott, Ont., and Ogdensburg, N.Y. ¹	—	8,782
Prince Edward Island and Nova Scotia.....	158,000	158,000
Quebec, Natashquan and Harrington, Que., and other ports on the north shore, Gulf of St. Lawrence.....	520,000	520,000
Quebec or Montreal, Gaspe, Que., and Magdalen Islands, calling at way ports.....	156,500	156,500
Rimouski, Matane and ports on the north shore of the St. Lawrence, Que.....	125,500	125,500

¹ The annual subsidy for this service is \$15,000 refundable in whole or in part. Full refund was made in respect of the year ended Mar. 31, 1954; the amount shown for 1955 is a balance subject to recapture in 1956.

30.—Steamship Subventions, Years Ended Mar. 31, 1954 and 1955—concluded

Services	1954	1955
	\$	\$
Eastern Services—concluded		
Rivière-du-Loup and St. Simeon, Que.....	21,000	21,000
Saint John, N.B., Westport and Yarmouth, N.S., calling at way ports.....	29,625	33,000
Sydney and Bay St. Lawrence, Cape Breton Island, calling at way ports.....	40,000	45,000
Yarmouth, N.S., and Boston, Mass.....	36,000	36,000
Newfoundland Coastal Steamship Services.....	1,903,116	2,000,000
Totals.....	4,032,148	4,118,093

PART V.—CIVIL AIR TRANSPORTATION*

Section 1.—Administration and Development

Historical Developments.—Canada's aviation history dates back to 1909 when the *Silver Dart*, piloted by Jack McCurdy (Hon. J. A. D. McCurdy, former Lieutenant-Governor of Nova Scotia), flew at Baddeck, N.S. This was the first aeroplane flight by a British subject in the British Empire.

There was little aviation development in Canada until World War I. Following the War, many of Canada's wartime aviators assisted in developing air transportation services into inaccessible areas, air forestry patrols and intercity air services. During this period the flying clubs movement received government assistance in the training of pilots and engineers required by Canada's civil aviation industry.

World War II was a period of intensive construction of airports and aerodromes to meet the requirements for training of airmen under the British Commonwealth Air Training Plan. At the end of the War many Service-trained Canadian airmen turned to commercial flying and were absorbed in existing operating companies or helped to develop other flying services. Transatlantic air services were inaugurated by the Department of Transport during the War and were turned over to Trans-Canada Air Lines which had come into being by Act of Parliament in 1937 to provide for the development of a government-controlled transcontinental air service for regular scheduled operations. Canadian Pacific Air Lines was created by the amalgamation of small commercial operators for the servicing of Canada's northland. In 1949 the Canadian Pacific Air Lines was designated to provide transpacific services on behalf of Canada. Service to Mexico and South America was inaugurated in 1953. Current operations of TCA and CPA are covered on pp. 855-857.

The Control of Civil Aviation.—The control of civil aviation in Canada is under the jurisdiction of the Federal Government and is administered under the authority of the Aeronautics Act 1919, and amendments thereto. The Aeronautics Act is in three parts. Broadly speaking, Part I deals with the technical side of civil aviation comprising matters of registration of aircraft, licensing of airmen, the establishment and maintenance of airports and facilities for air navigation, air traffic control, accident investigation and the safe operation of aircraft. This Part of the Act is administered by the Controller of Civil Aviation under the supervision of the Director of Air Services, Department of Transport. Part II of the Act deals with the social and economic aspects of commercial air services and assigns to the Air Transport Board certain statutory functions with respect to the regulation of commercial air services. Part III deals with matters of government internal administration in connection with the Act.

* Sections 1 and 2 of this Part were revised in the Department of Transport and Section 3, except where otherwise indicated, in the Transportation Section, Public Finance and Transportation Division, Dominion Bureau of Statistics. For military air transportation, see Chapter XXVIII, Defence of Canada.

Weather Services.—Weather services are provided by the Meteorological Division of the Department of Transport to meet the increasing demands of aviation, agriculture, industry and the general public. The expanding weather services required by the Department of National Defence are a major responsibility of the Division, both in Canada and with Canadian Armed Forces abroad. In 1955 a Central Analysis Office was operated in Montreal together with 47 forecast offices across Canada and four in Europe. Forecast offices are linked by teletype, radio teletype and a national facsimile system. As of July 1, 1955 the Division maintained 246 synoptic stations taking six-hourly observations, a network of 32 radiosonde stations (including five in the extreme Arctic operated jointly with the United States) taking upper air soundings and 69 stations recording upper winds. In addition there were in operation 1,228 climatological stations. One ocean weather station taking weather observations every three hours in the Pacific, 1,000 miles west of Vancouver, is maintained under international agreement.

Air Industries and Transport Association.—Commercial flying schools, which are members of the Air Industries and Transport Association, numbered 45 at the end of 1954. During 1954 the number of students instructed and graduated as private pilots was 567, the number graduated as commercial pilots was 86, and the number of instructional hours flown was 38,999.

Royal Canadian Flying Clubs.—At the end of 1954 there were 37 flying clubs connected with the Royal Canadian Flying Clubs Association. The total membership was 7,588 and the aircraft available for instructional purposes numbered 168. During the year 1,002 students were instructed and graduated as private pilots and 97 as commercial pilots. Instructional hours of flying totalled 74,856.

International Air Agreements.—The position of Canada in the field of aviation as well as its geographical location makes co-operation with other nations of the world engaged in international civil aviation imperative. Canada took a major part in the original discussions that led to the establishment of the International Civil Aviation Organization (ICAO) which has its headquarters at Montreal, Que. A special article on The International Civil Aviation Organization and Canada's Participation Therein appeared in the 1952-53 Year Book, pp. 820-827.

In recent years Canada has been a signatory to agreements concerning civil aviation with Australia and New Zealand; Belgium, Denmark, France, Ireland, Japan, Mexico, the Netherlands, Norway, Peru, Portugal, Sweden and with the United Kingdom and the United States.

Section 2.—Air Services

Air Transport Services.—These services are grouped into two broad classes—Scheduled Services and Non-scheduled Services. The first group provides regular point-to-point service on scheduled advertised routes and the second group includes:—

- (1) Specific Point Services from a designated base to specific points on the basis of unit rates that may be undertaken as the traffic warrants and that are not on a time schedule;
- (2) Chartered Services operated on the basis of the private chartering of an entire aircraft for a specific trip;
- (3) Contract Air Services which operate on one or more specific contracts—these do not operate on a time schedule nor need the contractor take the entire space of the aircraft; and
- (4) Specialty Air Services concerned with large scale forestry and utility surveys according to some specific agreement.

Trans-Canada Air Lines.—During 1954 TCA provided air transportation for 1,438,349 passengers and carried 16,741,568 lb. of freight and 4,762,763 lb. of express over its North American and international routes. Passenger traffic increased 10 p.c. over 1953 and in performing its services TCA flew 15 p.c. more revenue ton-miles. Staff at Dec. 31, 1954 numbered 7,991.

Super-constellation service was introduced by TCA for the first time on transatlantic routes and transcontinentally in 1954. The transatlantic service includes first class and tourist accommodation. Also in 1954 TCA took delivery of its first propeller-turbine

Viscount. This service was inaugurated on scheduled routes on Apr. 1, 1955, establishing the first propeller-turbine service by any commercial airline in North America. Twenty-five *Viscounts* were purchased, 14 of which were delivered and put into operation in 1955.

TCA provides service for passengers, mail and commodity traffic over routes totalling 24,016 miles and serves, in addition to country wide Canadian centres, the United States, England, Scotland, Ireland, France, Germany, Bermuda, the Bahamas, Jamaica, Barbados and Trinidad. In the autumn of 1955 an exchange of routes gave TCA services into Quebec and northern Ontario and gave Canadian Pacific Air Lines service to Mexico City.

1.—Passenger, Freight and Mail Traffic of Trans-Canada Air Lines 1945-51

Source: Trans-Canada Air Lines Annual Report.

Year	Revenue Passenger Traffic ¹		Revenue Commodity Traffic ²		Mail Traffic
	No.	passenger miles	lb.	ton-miles	ton-miles
1945.....	183,121	106,088,111	1,261,935	500,687	1,571,180
1946.....	305,442	155,777,319	1,453,743	513,493	1,210,716
1947.....	427,967	179,808,562	2,041,315	764,105	1,275,909
1948.....	532,555	249,575,544	4,313,297	1,608,102	2,294,088
1949.....	648,574	310,699,767	5,471,013	2,160,644	3,403,810
1950.....	790,808	379,605,810	9,518,009	3,585,775	3,644,752
1951.....	930,691	450,840,623	10,826,333	3,861,583	3,969,371
1952.....	1,132,518	653,961,415	19,757,969	7,042,427	4,843,052
1953.....	1,307,810	759,319,800	22,996,531	7,947,113 ^r	5,373,841
1954.....	1,438,349	852,475,532	24,044,347	10,192,705	6,942,299

¹ Includes non-scheduled service.

² Includes excess baggage and express.

2.—Operating Revenue and Expenditure of Trans-Canada Air Lines 1945-51

Source: Trans-Canada Air Lines Annual Report.

Year	Passenger	Freight ¹	Mail	Operating Revenue ²	Operating Expenditure	Operating Income
	\$	\$	\$	\$	\$	\$
1945.....	5,462,940	361,177	4,250,939	10,512,588	10,250,272	+ 262,316
1946.....	8,047,124	378,185	3,780,509	12,810,805	13,926,061	- 1,115,256
1947.....	10,450,524	534,359	3,808,197	15,297,346	16,796,492	- 1,499,146
1948.....	14,469,578	888,917	4,648,775	20,866,936	21,624,056	- 757,120
1949.....	19,460,395	1,161,612	5,400,000	26,523,969	27,472,728	- 948,759
1950.....	24,183,501	1,667,827	5,400,000	31,810,684	31,318,613	+ 492,071
1951.....	28,666,505	1,913,703	5,741,000	48,010,301 ^r	43,336,120 ^r	+ 4,674,181
1952.....	42,022,616	3,730,521	7,698,641	55,057,708	52,744,741	+ 2,312,967
1953.....	48,242,942	4,111,456	7,786,119	62,236,564	61,433,700	+ 802,864
1954.....	53,123,868	4,705,513	8,371,344	68,764,252	67,731,512	+ 1,032,740

¹ Express and excess baggage.

² Includes other revenue.

Canadian Pacific Air Lines Limited.—CPA operates scheduled domestic services over a total of 9,354 route miles. Overseas routes operate from Vancouver to Australia, New Zealand, Honolulu and Fiji on the South Pacific service. The North Pacific serves Tokyo and Hong Kong via the Great Circle route through the Aleutian Islands. Non-stop flights are made from Vancouver to Mexico City and onward to Lima, Peru, and a Polar route from Vancouver to Amsterdam was opened in 1955 with excellent traffic reported on all flights.

In September 1955 CPA took over the Trans-Canada Air Lines Mexico City route in exchange for certain Ontario and Quebec domestic routes formerly operated by CPA. The addition of the Mexico route brought CPA's overseas total to 27,610 miles. Thus its domestic and overseas routes now total 36,964 miles, making CPA the sixth largest carrier in the world airline group.

Domestic routes are flown by *DC-4*, *DC-3* and *Convair 240* aircraft. *DC-6B*'s are used on all overseas routes and orders have been placed for a number of *Bristol Britannia* propeller-turbine airliners, the first of which will be delivered in 1957.

In 1954 CPA flew 198,803,192 revenue passenger-miles and 2,261,920 revenue goods ton-miles and carried 246,965 revenue passengers and 2,983,331 lb. of mail.

Independent Air Lines.—In addition to Trans-Canada Air Lines and Canadian Pacific Airlines Limited, there are four other domestic air lines licensed to operate scheduled services in Canada—Central Northern Airways Limited, Winnipeg, Man., Maritime Central Airways Limited, Charlottetown, P.E.I., Queen Charlotte Airlines Limited, Vancouver, B.C., and Quebecair Incorporated, Mont Joli, Que.

Licensed domestic air carriers operating in Canada held valid operating certificates at Dec. 31, 1954 covering 39 scheduled, 90 flying training and 602 non-scheduled and specialty commercial air services. Non-scheduled services are operated by the majority of the independent airlines. These services provide effective access to sections of Canada that are inaccessible by other means of transportation and act as feeders to the scheduled air lines. They also provide specialty services such as recreational flying, aerial photography and surveying, aerial pest control and aerial advertising.

Commonwealth and Foreign Scheduled Commercial Air Services.—At the end of December 1954 there were 15 Commonwealth and foreign air carriers holding a total of 19 valid operating certificates covering international scheduled commercial air services operating into Canada, as follows:—

Air France (Compagnie Nationale Air France) operates between points in Metropolitan France and Montreal, Que., Canada, direct or via Shannon, Ireland, Keflavik, Iceland, or the Azores and Gander, Nfld., Canada; and New York, N.Y., and Chicago, Ill., U.S.A.

Airwork Limited operates on the Canadian portion of the route between points abroad and New York, N.Y., U.S.A., serving Gander, Nfld., Canada, and Montreal, Que., Canada, via designated airways and air routes.

American Airlines, Inc. operates between Toronto, Ont., Canada, and New York, N.Y., Newark, N.J., U.S.A., direct or via Buffalo, N.Y., U.S.A.

British Overseas Airways Corp. operates between London, England, and Montreal, Que., Canada, and between London, England, and New York, N.Y., U.S.A., both routes via Prestwick, Scotland, or Shannon, Ireland, and Gander, Nfld., Canada; and between London, England, Gander, Nfld., Canada, and Bermuda.

Colonial Airlines, Inc. operates (a) between the terminals Ottawa, Ont., Canada, and Montreal, Que., Canada, and New York, N.Y., U.S.A., via Burlington, Vt., U.S.A., and (b) between the terminals, Ottawa, Ont., Canada and Montreal, Que., Canada, and Washington, D.C., U.S.A., via Massena, N.Y., and/or Syracuse, N.Y., U.S.A.

KLM Royal Dutch Airlines operates on the Canadian portion of the route between the terminals Amsterdam, Netherlands, and Montreal, Que., Canada; and on the Canadian portion of the route between the terminals Montreal, Que., Canada and Willemstad, Curaçao, Netherlands Antilles.

Northeast Airlines, Inc. operates between Montreal, Que., Canada, and Boston, Mass., U.S.A., via Burlington, Vt., Montpelier-Barre, Vt., White River Junction, Vt., (Lebanon Airport, N.H.) and Concord, N.H., U.S.A.

Northwest Airlines, Inc. operates between Winnipeg, Man., Canada, and Fargo, N.D., U.S.A., and between Minneapolis/St. Paul, Minn., U.S.A., Edmonton, Alta., Canada, Anchorage, Alaska, U.S.A., and beyond.

Pan American World Airways Inc. operates on the Canadian portion of the air route between Seattle, Wash., and Fairbanks, Alaska, and with points of call at Juneau and Annette Island, Alaska, and Whitehorse, Y.T., Canada; also on the Canadian portion of the route between U.S.A., Gander, Nfld., Canada and Europe.

3.—Aerodromes by Province as of September 1955—concluded

Operator	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.	Yukon	Canada
United States Air Force—													
Land.....	1	—	—	—	—	—	—	—	—	—	—	—	1
Water.....	—	—	—	—	—	—	—	—	—	—	1	—	1
United States Navy—													
Land.....	1	—	—	—	—	—	—	—	—	—	—	—	1
Water.....	1	—	—	—	—	—	—	—	—	—	—	—	1
Totals, Landing Areas	10	4	8	11	57	136	46	33	44	67	36	27	479
Land	5	4	7	9	39	82	22	28	34	54	16	23	323
Water	5	—	1	2	18	54	24	5	10	13	20	4	156
Auxiliary Facilities													
Hard-surfaced Aerodromes—													
Land.....	4	2	7	6	19	43	13	13	14	23	3	2	149
Lighted Aerodromes—													
Land.....	5	2	3	4	17	42	10	12	20	21	9	5	150
Water.....	1	—	1	—	—	—	—	—	—	—	—	—	2

Air Traffic Control.—The primary functions of Air Traffic Control Service of the Department of Transport are to expedite and maintain an orderly flow of air traffic and to prevent collision between aircraft operating within controlled airspace and between aircraft and obstructions on the movement area of controlled airports. This is accomplished through provision of airport control, approach control and area control services, together with flight information, alerting for search and rescue, customs notification and aircraft identification. These services are described as follows:—

Airport Control is designed particularly to provide air-traffic control service in the vicinity of major civil airports where the volume and type of aircraft operations, together with weather conditions and other factors, indicate its need in the interest of safety. The service includes the control of pedestrians and vehicles on the manoeuvring area of the airport. Control is effected by means of direct radio-telephone communication or visual signals to aircraft and surface vehicles on and in the vicinity of controlled airports. The control towers are located at Patricia Bay and Vancouver, B.C.; Lethbridge, Calgary and Edmonton, Alta.; Saskatoon and Regina, Sask.; Winnipeg, Man.; Lakehead, Windsor, London, Toronto, Toronto Island, Ottawa and North Bay, Ont.; Montreal, Cartierville, Quebec and Seven Islands, Que.; Moncton, N.B.; Sydney, N.S.; and Gander, Nfld. Most of these control towers are in continuous operation but a few provide 16 hour daily service only.

Approach Control is provided by the North Bay and Ottawa approach control towers. This service is in addition to the regular airport control service provided at these locations. Approach control service consists of the provision of standard IFR separation to aircraft operating in accordance with the Instrument Flight Rules within the local approach control area of the airport.

Area Control is designed particularly to provide air-traffic control service to aircraft operating within controlled airspace during weather conditions which prevent a pilot from seeing other aircraft or obstructions and necessitate his reliance on instruments to conduct the flight. Area control centres are located at Vancouver, B.C.; Edmonton, Alta.; Winnipeg, Man.; Toronto, Ont.; Montreal, Que.; Moncton, N.B.; and Gander, Nfld. Each centre is connected with the control towers, radio range stations and operations offices within its area by means of an extensive system of local and long-line interphone or radio circuits and through the radio communication facilities available at these offices to all aircraft requiring area control service. Each area control centre is similarly connected with the adjacent centres, including centres in the United States, for the purpose of co-ordinating the control of aircraft operating through more than one control area. This communications system permits each centre to maintain a continuous detailed record of the movements of all aircraft operating in accordance with the Instrument Flight Rules, and a general record of the movements of all aircraft operating in accordance with the Visual Flight Rules within its control area. In addition to providing area control service to aircraft operating within the controlled airspace over Newfoundland, the Gander area control centre provides this service within the airspace over approximately one-half of the North Atlantic Ocean. Area control service is provided for approximately 15,000 miles of airways, air routes and control channels.

Flight Information provides advice and information useful for the safe and efficient conduct of flight, including weather reports and forecasts, field condition reports, data concerning aids to navigation, traffic information, refuelling and transportation facilities and other related data of assistance to the pilot in planning or conducting a flight. Such service is provided by all air-traffic control units but particularly by the seven area control centres—one to a region.

Alerting for Search and Rescue is designed to ensure that the appropriate organizations are notified of aircraft in need of search and rescue aid and otherwise to assist such organizations, as required. Area control centres are responsible for notifying these organizations promptly of non-arrival at destination of any aircraft for which a flight plan or flight notification has been received. This requires the maintenance and constant supervision of a continuous record of active flights to ensure that non-arrival of any aircraft is detected immediately. The service is available to any pilot who files either a flight plan or a flight notification with any communications agency of the Air Services Branch of this Department or directly with one of the area control centres or control towers.

Customs Notification Service facilitates the routine notification of the appropriate customs agency by pilots who plan to cross the United States-Canada boundary. The Air-Traffic Control communications system and units connected therewith forward pilot requests to notify the customs officer at the airport of destination.

Aircraft Identification Service is provided by area control centres to assist the Department of National Defence in establishing the identification of all aircraft operating within specified areas.

Air Traffic Control employs 174 airport controllers, 94 area controllers, 14 approach controllers, 75 air-traffic control assistants and a headquarters staff of nine—a total of 366 persons—and operates 22 airport control towers and seven area control centres. The number of controlled operations in Canada during 1954 was 1,693,133, an increase of 9.6 p.c. over the preceding year. Of this total 73.5 p.c. represented civil and 26.5 p.c. military operations.

Summary of Operation Statistics.—The statistics given in Table 4 show the steady increase in recent years in passenger, freight and mail traffic.

4.—Summary Statistics of Civil Aviation 1950-54

NOTE.—Figures from 1921 are given in the corresponding table of previous Year Books beginning with the 1924 edition.

Item	1950	1951	1952	1953*	1954
Aircraft Miles Flown—					
Revenue..... No.	39,901,935	46,253,726	52,125,891	57,284,591	54,438,400
Non-revenue..... "	1,466,559	1,905,996	..	1,735,493	1,332,318
Totals..... No.	41,368,494	48,159,722	52,125,891	59,020,084	55,770,718
Passengers Carried—					
Revenue..... No.	1,452,081	1,788,558	2,154,434	2,652,293	2,707,245
Non-revenue..... "	48,113	53,154	57,330	65,377	65,920
Totals ¹ No.	1,511,021	1,888,689	2,289,779	2,717,670	2,773,165
Passenger Miles—					
Revenue..... No.	474,367,165	585,701,475	679,136,075 ¹	791,185,039	869,275,369
Non-revenue..... "	25,213,468	25,228,048	27,559,456	34,113,939	37,966,498
Totals..... No.	499,580,633	610,929,523	706,695,531	825,298,978	907,241,867
Freight Carried—					
Revenue..... lb.	42,141,292	53,542,103	133,118,754	175,533,032	107,052,778
Non-revenue..... "	3,443,521	4,129,524	5,237,779	4,814,274	5,203,365
Totals ⁴ lb.	46,681,194	61,693,191	138,416,758	180,347,306	112,256,143

¹ Exclusive of passengers carried between foreign stations who are included in totals, other than crews.

² Exclusive of charter services, figures for which are not available.

³ Includes employees

⁴ Exclusive of freight

carried between stations which is included in totals.

4.—Summary Statistics of Civil Aviation 1950-54—concluded

Item	1950	1951	1952	1953	1954
Freight Ton-Miles—					
Revenue.....No.	6,420,693	8,274,995	7,722,018	9,151,409	10,700,590
Non-revenue....."	1,658,520	1,900,940	1,915,559	2,084,070	2,634,097
Totals.....No.	8,079,213	10,175,935	9,637,577	11,235,479	13,334,687
Mail carried.....lb.	14,241,523	16,485,558	17,877,593	19,755,678	23,412,390
Mail ton-miles.....No.	4,293,447	4,736,524	4,953,326	5,476,765	6,834,669
Hours Flown by Aircraft—					
Transportation revenue.....No.	246,653	478,523	358,081	386,076	368,309
Transportation non-revenue....."	12,409	22,738	20,490	23,960	20,032
Patrols, surveys, etc....."	48,654	50,475	80,267	83,193	75,760
Totals.....No.	307,716	551,736	458,838	493,229	464,101
Gasoline consumption.....gal.	22,088,575	29,596,490	38,323,977	43,519,783	43,017,611
Lubricating oil consumption....."	275,370	333,557	456,187	542,732	563,419
Licensed civil airports (all types)...No.	279	..	419	433	470
Year Ended Mar. 31—					
	1951	1952	1953	1954	1955
Licensed Civil Aircraft (all types)—					
Gross weight—					
Up to 2,000 lb.....No.	1,169	1,170	1,242	1,331	1,495
2,001 - 4,000 lb....."	483	527	567	668	855
4,001 - 10,000 lb....."	446	454	450	488	530
10,001 - 20,000 lb....."	32	31	33	48	49
Over 20,000 lb....."	112	119	136	159	219
Totals, Aircraft.....No.	2,242	2,301	2,428	2,694	3,148
Ownership, Commercial—					
Up to 2,000 lb.....No.	593	577	540	550	595
2,001 - 4,000 lb....."	279	282	279	308	386
4,001 - 10,000 lb....."	300	387	285	314	328
10,001 - 20,000 lb....."	24	25	25	30	32
Over 20,000 lb....."	101	113	121	149	199
Ownership, Other—					
Up to 2,000 lb.....No.	576	593	702	783	900
2,001 - 4,000 lb....."	204	245	288	350	469
4,001 - 10,000 lb....."	146	67	165	181	202
10,001 - 20,000 lb....."	8	6	8	19	17
Over 20,000 lb....."	11	6	15	10	20
Licensed Civil Air Personnel—					
Commercial pilots.....No.	528	845	1,319	1,532	1,712
Senior commercial....."	157	165	218	337	342
Airline transport....."	87	165	458	589	663
Glider pilots....."	33	77	107	136	162
Transport pilots....."	651	612	269	—	—
Private pilots....."	3,546	4,444	4,483	4,508	5,034
Air navigators....."	—	28	43	53	57
Air traffic controllers....."	—	172	183	199	244
Air engineers....."	1,546	1,402	1,418	1,429	1,448
Flight engineer....."	—	—	—	—	24

Table 5 shows civil aviation figures for 1954 by type of service. A definition of scheduled and non-scheduled carriers is given on p. 855. Statistics for international carriers include traffic over Canadian territory for both Canadian and foreign operators; a small traffic across Canadian territory and between foreign stations is also included. Statistics for Canadian carriers operating international routes are included both as "international" and "Canadian" but duplications are excluded from the totals.

5.—Summary Statistics of Civil Aviation by Type of Service 1954

Item	Canadian Carriers		Foreign Inter-national	Total
	Scheduled	Non-scheduled and Other		
Aircraft Miles Flown.....No.	37,997,256	15,501,151	2,272,311	55,770,718
Revenue transportation....."	36,673,959	15,501,151	2,263,290	54,438,400
Non-revenue transportation....."	1,323,297	—	9,021	1,332,318
Passengers Carried.....No.	1,956,181	333,212	483,772	2,773,165
Revenue....."	1,780,030	329,910	475,683	2,585,623
Between foreign stations....."	121,622	—	—	121,622
Non-revenue....."	54,529	3,302	8,089	65,920
Passenger Miles ¹.....No.	856,376,480	5,718,984	45,146,403	907,241,867
Revenue....."	819,932,598	5,672,125	43,670,646	869,275,369
Non-revenue....."	36,443,882	46,859	1,475,757	37,966,498
Freight Carried.....lb.	48,079,375	57,764,093	6,412,675	112,256,143
Revenue....."	43,275,986	57,541,547	6,124,746	106,942,279
Between foreign stations....."	110,499	—	—	110,499
Non-revenue....."	4,692,890	222,546	287,929	5,203,365
Freight Ton-Miles ¹.....No.	12,463,465	346,795	524,427	13,334,687
Revenue....."	9,916,584	340,268	443,738	10,700,590
Non-revenue....."	2,546,881	6,527	80,689	2,634,097
Mail carried.....lb.	20,516,778	828,564	2,067,048	23,412,390
Mail ton-miles.....No.	6,673,700	59,193	101,776	6,834,669
Hours Flown by Aircraft.....No.	220,309	232,317	11,475	464,101
Transportation revenue....."	211,628	145,246	11,435	368,309
Transportation non-revenue....."	8,272	11,720	40	20,032
Patrols, surveys, etc....."	409	75,351	—	75,760
Gasoline consumption.....gal.	31,131,379	5,133,250	6,752,982	43,017,611
Lubricating oil consumption....."	423,783	76,116	63,520	563,419

¹ Exclusive of charter service, figures for which are not available.

6.—Capital Investment of the Department of Transport in Air Services as at Mar. 31, 1952-54

NOTE.—Compiled from Department of Transport records.

Item	1952	1953	1954	Total as at Mar. 31, 1954
	\$	\$	\$	\$
Airways and Airports.....	Cr. 7,423,327	24,641,843	5,379,192	297,160,337
Civil Aviation—				
Ordinary appropriations.....	—	—	—	849,053
Capital appropriations.....	4,547,948	6,800,041	3,230,178	52,202,905
War appropriations—				
Transferred from other Departments.....	Cr. 705,977	21,003,338	—	201,770,723
Value of property transferred to Crown Assets	—	—	—	
Disposal Corporation.....	Cr. 14,342,687	Cr. 4,423,532	—	
Property retired through obsolescence, loss or abandonment.....	—	Cr. 395,620	—	
Northwest Communication System transferred to Telecommunications Division.....	Cr. 12,423,493	—	—	4,913,091
Air Ministry of United Kingdom.....	—	—	—	
Telecommunications Division—				
Aviation Radio Aids—				
Ordinary appropriations.....	—	—	—	336,180
Capital appropriations.....	3,077,489	1,652,616	2,149,014	19,013,932
War appropriations.....	12,423,493	—	—	18,069,453

**6.—Capital Investment of the Department of Transport in Air Services as at Mar. 31,
1952-54—concluded**

Item	1952	1953	1954	Total as at Mar. 31, 1954
	\$	\$	\$	\$
Telecommunications Division (excluding Aviation Radio Aids).....	233,024	395,592	668,404	2,807,434
Radio Act and Regulations.....	48,160	159,469	258,685	552,261
Radio Aids to Marine Navigation— Ordinary appropriations.....	164,645	210,433	—	961,842
Capital appropriations.....	—	—	380,456	380,456
War appropriations.....	—	—	—	797,281
Suppression of Radio Interferences.....	20,219	25,690	29,263	115,594
Meteorological Facilities.....	353,985	683,733	907,439	3,647,574
Ordinary appropriations.....	353,985	683,733	—	2,248,036
Capital appropriations.....	—	—	907,439	907,439
War appropriations.....	—	—	—	492,099
Canadian Government Transatlantic Air Service...	—	—	—	4,788,369
Grand Totals.....	Cr. 6,836,218	25,721,168	6,955,035	308,403,714

**7.—Expenditure and Revenue of the Department of Transport in connection with
Air Services, Years Ended Mar. 31, 1952-54**

NOTE.—Compiled from Department of Transport records.

Item	1952	1953	1954
	\$	\$	\$
Expenditure			
Air Transport Board.....	230,116	363,806	356,563
Air Services Administration.....	203,876	217,261	230,203
Civil Aviation Division (including Aviation Radio Aids)— Control of Civil Aviation.....	735,619	836,935	909,600
Construction Services—administration.....	676,318	706,226	785,246
Grants to aeroplane clubs.....	266,850	271,650	307,250
Grants to National Research Council.....	50,000	50,000	50,000
Airways and Airports, Operation and Maintenance— Ordinary.....	8,730,267	9,299,286	8,790,905
Aviation radio aids.....	4,628,160	4,781,125	5,178,689
Contributions to assist municipalities.....	108,319	97,275	142,192
Contribution to State of Michigan.....	30,420	32,010	15,000
Contribution to International Civil Aviation Organization re Iceland.....	—	—	—
Government air aids to navigation.....	40,636	33,943	38,319
Contribution to Denmark in joint support of North Atlantic Air Navigation facilities in the Faroes and Greenland.....	75,153	59,082	67,608
Contribution to South Pacific Air Transport Council.....	112,500	122,500	122,500
Airways and Airports Traffic Control.....	1,178,631	1,314,625	1,443,040
Northwest Communication System—ordinary.....	109,820	—	—
Refund of land rentals to Trans-Canada Air Lines.....	3,300	—	—
Contribution re landing strip, Goldfields, Sask.....	80,000	—	—
Contribution towards development of landing facilities in mining areas.....	—	—	40,000
Totals, Civil Aviation Division.....	16,825,993	17,604,657	17,890,349
Telecommunications Division (excluding Aviation Radio Aids)— Administration of Radio Act and Regulations—Ordinary.....	828,008	908,699	1,026,209
Radio Aids to Marine Navigation—Ordinary.....	1,788,846	2,018,885	2,135,890
Suppression of radio interferences.....	368,697	375,419	375,307
Issue of radio receiving licences.....	699,857	702,779	40,862
Telegraph and Telephone Services— Administration, operation and maintenance.....	1,294,759	1,387,102	1,438,997
Construction and improvements.....	303,777	459,396	470,558
Totals, Telecommunications Division (excluding Aviation Radio Aids).....	5,283,944	5,852,280	5,487,823
Meteorological Division— Operation and maintenance.....	5,760,842	6,195,462	6,336,415
Totals, Expenditure.....	28,304,771	30,233,466	30,301,353

**7.—Expenditure and Revenue of the Department of Transport in connection with
Air Services, Years Ended Mar. 31, 1952-54—continued**

Item	1952	1953	1954
	\$	\$	\$
Revenue and Receipts			
Air Services Administration.....	—	692	3
Civil Aviation Division (including Aviation Radio Aids)—			
Private air pilots' certificates.....	4,839	5,625	6,333
Aircraft registration fees.....	4,263	4,918	5,237
Airport licences.....	430	305	391
Airworthiness certificates.....	1,060	1,415	1,830
Fines—Aeronautics Act and Regulations.....	560	1,585	1,775
Aircraft landing fees.....	1,603,538	1,896,437	2,267,717
Rentals at airports.....	476,249	456,896	632,554
Outside and hangar space rental.....	319,671	407,165	558,432
Rental of equipment.....	9,188	9,650	8,552
Rentals—employees quarters.....	262,147	238,704	263,663
Miscellaneous rentals.....	25,552	59,976	56,804
Power service.....	67,726	57,177	76,950
Concessions—			
Gasoline and oil.....	344,333	421,612	502,102
Taxi.....	24,789	29,443	37,282
Telephone.....	4,756	5,711	8,208
Restaurants and snack bars.....	19,500	33,880	13,407
Other.....	36,797	50,920	74,455
Telephone service.....	22,250	18,028	8,583
Airport radio service to aircraft.....	302,276	314,859	396,288
Radio message tolls.....	41,260	27,263	34,665
Mess receipts.....	24,241	23,037	22,497
Sales miscellaneous.....	5,811	7,377	17,649
Aircraft servicing other than repairs.....	1,216	21	5
Observation roof—turnstiles.....	15,244	17,477	19,677
Miscellaneous revenue.....	53,526	43,913	96,958
Gander Airport—			
Mess hall accommodation.....	5,454	4,253	18,436
Airlines hotel accommodation.....	29,326	28,749	32,135
Skyways Club.....	98,953	97,918	2,822
Terminal charges.....	135,855	10,142	—
Novelty shop.....	—	—	—
Coal sales.....	27,287	29,085	29,408
Mess hall board.....	8,477	3,638	20,470
Airlines hotel dining room.....	75,158	57,608	82,814
Airlines hotel bar.....	45,454	56,348	59,021
Skyways Club snack bar.....	267,693	368,785	14,942
Skyways Club bar.....	140,713	159,791	4,377
Laundry.....	34,374	27,735	1,529
Dry-cleaning plant.....	16,141	15,941	12
Recoverable services.....	46,489	54,120	78,020
Heating.....	122,998	135,213	189,190
Electricity.....	95,873	87,596	114,584
Bakery.....	58,199	64,579	7,130
Sanitary fees.....	5,685	7,622	8,965
Bus operation.....	2,165	2,422	3,262
Sundries.....	5	—	—
Assessment collections.....	—	1,378	441
Net profit commercial caterers.....	—	—	9,354
Refunds, previous year's expenditure.....	84,949	30,298	34,609
Totals, Civil Aviation Division.....	4,972,500	5,376,615	5,823,535
Telecommunications Division (excluding Aviation Radio Aids)—			
Radio operators' examination fees.....	1,170	1,385	1,572
Radio Station Licences—			
Aircraft station.....	10,143	12,004	13,033
Amateur experimental station.....	17,269	17,623	17,415
Commercial receiving station.....	382	166	139
Experimental station.....	855	1,040	1,012
Limited coast station.....	800	800	350
Municipal police private commercial station.....	210	249	313
Private commercial station.....	45,721	56,198	73,882
Public commercial station.....	7,680	8,580	11,190
Ship station.....	32,291	33,649	35,467
Technical and training school station.....	27	50	25
Sale of transport publications.....	1,293	1,448	1,259
Fines—Radio Act and Regulations.....	37,056	34,295	1,826

7.—Expenditure and Revenue of the Department of Transport in connection with Air Services, Years Ended Mar. 31, 1952-54—concluded

Item	1952	1953	1954
	\$	\$	\$
Revenue and Receipts—concluded			
Telecommunications Division—concluded			
Radio Message Tolls—			
Department of Transport operated coast stations.....	111,867	121,950	172,470
Marconi operated coast stations.....	69,228	77,938	77,684
Rentals—living quarters—employees.....	25,449	22,446	26,122
Other.....	4,541	4,296	4,326
Government telegraph and telephone tolls.....	693,790	970,883	952,687
Mess receipts.....	736	488	327
Sundries.....	912	1,654	19,764
Northwest Communications System.....	—	—	121,592
Refunds, previous year's expenditure.....	5,738	108,394	33,574
Totals, Telecommunications Division.....	1,067,158	1,475,536	1,566,029
Meteorological Division—			
Rentals—living quarters—employees.....	16,396	18,759	20,262
Other.....	254	2,993	3,399
Sale of transport publications.....	975	3,323	3,405
Radio commercial message tolls—Department of Transport operated coast stations.....	911	1,335	688
Air-ground radio service.....	280	—	—
Communication facilities—inter-office.....	393	356	350
Power service.....	994	—	754
Sundries.....	2,104	4,180	6,296
Refunds, previous year's expenditure.....	10,017	10,341	6,378
Totals, Meteorological Division.....	32,324	41,287	41,532
Totals, Revenue and Receipts.....	6,071,982	6,894,130	7,431,099

No statistics are available regarding total expenditure on flying operations by the Federal and Provincial Governments or by private individuals, but capital expenditure by commercial air carriers for property as reported for the end of 1953 and 1954 is shown in Table 8.

8.—Cost of Property, Revenue and Expenditure for Scheduled and Other Commercial Air Carriers 1953 and 1954

Item	1953			1954		
	Scheduled ¹	Other	Total	Scheduled ¹	Other	Total
	\$	\$	\$	\$	\$	\$
Cost of Property.....	26,725,707	4,491,251	31,216,958	37,927,946	5,020,059	42,948,005
Aircraft.....	13,583,865	2,614,601	16,198,466	20,625,272	3,069,903	23,695,175
Aircraft engines.....	4,155,326	698,585	4,853,911	6,557,267	571,122	7,128,389
Buildings and improvements.....	5,564,154	569,814	6,133,968	6,438,750	734,074	7,172,824
Miscellaneous.....	3,422,362	608,251	4,030,613	4,306,657	644,960	4,951,617
Revenue and Expenditure—						
Revenue.....	84,197,975	20,057,525	104,255,500	90,730,262	18,134,027	108,864,289
Expenditure.....	83,292,744	19,667,156	102,959,900	89,076,669	17,910,700	106,987,369

¹ Includes Canadian trans-border, transatlantic and transpacific services.

Employees and Salaries and Wages.—The numbers of civil air personnel licensed in recent years are shown in Table 4, p. 861. However the figures in Table 9 include pilots and engineers in the employ of the Federal Government and of private individuals as well as those not employed at all in the ordinary sense.

9.—Employees and Salaries and Wages in Civil Aviation 1953 and 1954

Year and Class of Employee	Scheduled		Non-scheduled		Totals	
	Em- ployees	Salaries and Wages	Em- ployees	Salaries and Wages	Em- ployees	Salaries and Wages
	No.	\$	No.	\$	No.	\$
1953						
General officers.....	565	3,586,722	111	660,807	676	4,247,529
Clerks.....	1,215	3,217,482	126	314,892	1,341	3,532,374
Pilots.....	349	3,746,059	373	1,853,165	722	5,599,224
Co-pilots.....	380	1,954,277	102	507,272	482	2,461,549
Despatchers.....	97	488,102	40	121,370	137	609,472
Communication operators.....	775	2,236,082	33	100,154	808	2,336,236
Stewards or other attendants.....	451	1,466,527	11	42,339	462	1,508,866
Air engineers.....	430	1,975,870	182	751,489	612	2,727,359
Mechanics.....	2,061	8,149,979	284	848,925	2,345	8,998,904
Airport employees.....	1,366	4,456,943	105	266,314	1,471	4,723,257
Stores employees.....	250	796,291	80	79,111	280	875,402
Other employees.....	1,181	4,169,499	186	398,793	1,367	4,568,292
Totals, 1953¹	9,120	36,243,833	1,583	5,944,631	10,703	42,188,464
1954						
General officers.....	676	4,284,505	115	650,307	791	4,934,812
Clerks.....	1,369	3,681,871	134	276,446	1,503	3,958,317
Pilots.....	354	3,976,186	432	2,252,761	786	6,228,947
Co-pilots.....	354	1,992,711	39	180,614	393	2,173,325
Despatchers.....	99	486,127	33	120,309	132	606,436
Communication operators.....	801	2,437,566	39	110,557	840	2,548,123
Stewards or other attendants.....	454	1,536,076	8	17,375	462	1,553,451
Air engineers.....	458	2,204,744	196	793,092	654	2,997,836
Mechanics.....	2,545	9,944,269	282	872,354	2,827	10,816,623
Airport employees.....	1,465	4,975,568	94	238,674	1,559	5,214,242
Stores employees.....	270	878,008	29	77,280	299	955,288
Other employees.....	1,324	4,855,626	120	328,388	1,444	5,184,014
Totals, 1954¹	10,169	41,253,257	1,521	5,918,157	11,690	47,171,414

¹ Excludes 436 employees of foreign carriers domiciled in Canada for 1954 and 402 for 1953.

PART VI.—OIL AND GAS PIPELINES*

A special article covering the history and development of pipeline construction in Canada appears in the 1954 Year Book at pp. 861-869. Information included at pp. 910-911 of the 1955 edition and in the following Section brings pipeline development up to mid-1955.

Section 1.—Pipeline Developments

Prairie crude oil is delivered by pipeline to Ontario and to the Pacific Coast by two great pipeline systems which had their first full year of operation in 1954.

In 1950 the Interprovincial Pipe Line Company constructed its first east-bound pipeline from Edmonton, Alta., to Superior, Wis., U.S.A. Three years later the line was extended 643 miles to Sarnia, Ont., and a loop was added between Regina, Sask., and Gretna, Man. This is the longest pipeline in the world, the route from Edmonton to Sarnia being 1,765 miles in length. During 1954 the system's capacity was enlarged by

* Prepared under the direction of Dr. G. S. Hume, Acting Deputy Minister, Department of Mines and Technical Surveys, by R. B. Toombs, Petroleum Engineer of the Mineral Resources Division.

adding 455 miles of 24 inch diameter pipe in loops parallel to the original line in Canada and 196 miles of 26 inch loop in the United States. In addition a new pumping station was built, eight other pumping stations were enlarged and storage tank facilities of approximately 862,000 bbl. capacity were installed. The total investment in the Interprovincial pipeline system at the end of 1954 was \$224,000,000.

The Interprovincial system in 1955 had daily pumping facilities of 217,000 bbl. between Edmonton and Regina, 193,000 bbl. between Regina and Gretna, 163,000 bbl. between Gretna and Superior, and 147,000 bbl. between Superior and Sarnia. The latter two sections of the system are operated by the Lakehead Pipe Line Company Incorporated, a United States subsidiary of the Interprovincial Pipe Line Company. Pipeline receipts of oil in 1954 totalled 67,600,000 bbl., a 25 p.c. increase over 1953. By mid-1955 the system was receiving 250,000 bbl. daily and deliveries of Prairie crude oil were being made either directly or by spur lines to refineries at Saskatoon, Moose Jaw and Regina in Saskatchewan, Brandon and Winnipeg in Manitoba, Wrenshall, Minn., Superior, Wis., and Sarnia, Ont. From Sarnia some crude oil was moving to refineries at Toronto and Port Credit by lake tanker. In addition, Saskatchewan crude oil from the Swift Current area commenced to move to St. Paul, Minn., via the Interprovincial pipeline and two other lines. Cost of transporting oil from the main Alberta collecting point at Edmonton to Regina is 23½ cents, to Gretna 36 cents, to Superior 44 cents and to Sarnia 64 cents.

Trans Mountain Pipe Line Company Limited completed its 718 mile, 24 inch diameter line between Edmonton and Vancouver in October 1953. During 1954 a 24 mile spur line of 20 inch and 16 inch diameter pipe was constructed from Sumas, B.C., across the International Boundary to Ferndale, Wash., where the General Petroleum Corporation completed its new refinery in October of that year. In 1955 this spur line was extended 36 miles southwestward to the new Shell Oil Company refinery at Anacortes. The Trans Mountain pipeline has installed pumping capacity of 150,000 bbl. daily within four pumping stations; provision for the addition of ten more stations allows for an ultimate daily capacity of 300,000 bbl.

Six major feeder lines supply the Trans Mountain system with Alberta crude oil at Edmonton. Oil is delivered to one refinery at Kamloops, B.C., three near Vancouver, and two in the State of Washington. The 1954 daily average crude oil deliveries amounting to 39,787 bbl. had increased to 70,000 bbl. by mid-1955 and further increases were anticipated. The pipeline tariff per barrel from Edmonton to Vancouver is 45 cents.

Construction work continued on Canada's oil gathering lines which supply the two large cross-country systems. Late in 1954 Pembina Pipe Line Company Limited completed a 72 mile, 16 inch diameter transmission line from a pumping station location near the town of Drayton Valley, Alta., to Edmonton to take delivery of oil from Pembina oil field. Its initial capacity is 115,000 bbl. daily. A gathering system in the Pembina field is being enlarged as new wells are drilled and eventually will collect oil from as many as 4,000 wells. Daily deliveries of the Pembina pipeline averaging less than 10,000 bbl. in 1954 were nearing the 40,000 bbl. mark by mid-1955 and greater increases were anticipated. During 1955 a 106 mile pipeline of 57,000 bbl. daily capacity was built from Sturgeon Lake oil field southward to the Trans Mountain pipeline at Edson, Alta. Canadian Gulf Pipe Line Company constructed a 36 mile line to link the Joffre and Clive oil fields to the main line near Stettler, Alta. The main line takes delivery of oil from Big Valley, Stettler and other fields along a 136 mile trunk line route between Big Valley field and Edmonton.

In Saskatchewan, South Saskatchewan Pipe Line Company constructed a 158 mile, 16 inch diameter pipeline in 1954 from Cantuar, near Swift Current, to Regina for the purpose of transporting medium-gravity crude oil from the Fosterton-Cantuar-Success group of fields to the Interprovincial pipeline. The crude is then transported via the Interprovincial pipeline to Clearwater, Minn., where another new pipeline transports it southward to a refinery near St. Paul, Minn. Present capacity of the \$10,000,000 South Saskatchewan pipeline is 20,000 bbl. daily. Oil shipments were started in June 1955.

The pipeline tariff to St. Paul is 77 cents a bbl. which permits the marketing of Saskatchewan medium-gravity crude oil in the industrial St. Paul area at prices competitive with crude oil produced in the Wyoming fields. The Smiley light gravity oil field in central Saskatchewan was also linked in 1954 to the Interprovincial pipeline by a 30 mile line of 12,000 bbl. daily capacity from the field to the town of Ermine.

In Manitoba a pipeline system was constructed in 1954 to connect the Virden area oil fields with the Interprovincial pipeline at Cromer. Twenty-five miles of transmission line and several miles of gathering line were laid. The system is being expanded as new fields are developed and Manitoba crude oil is thereby finding ready access to market. In Ontario, Imperial Oil Limited raised the capacity of its 195 mile Sarnia Products Pipe Line from 37,000 to 55,000 bbl. daily. A large oil products pipeline was constructed in 1954 over a 625 mile route from Haines to Fairbanks, Alaska. This 8 inch diameter line crosses 293 miles of Canadian territory in British Columbia and the Yukon.

Although Canada's oil pipeline systems have grown rapidly during the past five years and are now adequate for some time to come, pipeline systems planned for the eastward and westward transportation of Alberta and British Columbia gas had not entered the construction stages by mid-1955. Trans-Canada Pipe Lines, Limited received a permit in 1954 from the Alberta Government to export gas at the maximum rate of 540,000 M cu. ft. per day up to a total of 4,350,000,000 M cu. ft. over a 27 year period and in the same year a Federal Government permit was granted to move Alberta natural gas across Canada to eastern markets. Each permit is subject to the establishment of proof that the project can be financed.

In October 1954 a 76 mile, 20 inch diameter gas pipeline was built from Niagara River to Toronto to connect facilities of the Tennessee Gas Transmission Company at the International Boundary with the Toronto distribution system of Consumers' Gas Company. Natural gas deliveries commenced early in 1955.

Westcoast Transmission Company Limited, which had received Canadian approval to construct a pipeline for delivery of Peace River natural gas to Vancouver and United States markets in 1952, failed to gain access to the American markets in a June 1954 hearing before the Federal Power Commission in Washington. Late in 1954 the Company signed an agreement with Pacific Northwest Pipe Line Corporation, which in June had been given the Pacific Northwest States market franchise. The agreement would permit initial deliveries of 300,000,000 cu.ft. of Peace River area gas to the American company's facilities at the International Boundary. In addition Westcoast would make initial daily deliveries of up to 50,000,000 cu.ft. to Vancouver and nearby Fraser Valley communities. During 1955 United States approval of this agreement was being sought, and Westcoast was continuing with preparations for its 650 mile, 30 inch diameter main line and 223 mile gathering system.

In Alberta, Northwestern Utilities, Limited, which supplies natural gas to Edmonton and most towns north of Red Deer, constructed pipelines from two more fields in 1954, bringing its total source fields to seven. A 40 mile, 12 inch diameter line was laid from the Bonnie Glen-Wizard Lake area to Edmonton to provide for the transportation of 15,000,000 cu.ft. of natural gas daily. The Company also tied the Acheson field to its system at Edmonton by the construction of a 6 mile, 6 inch diameter line of 3,000,000 cu.ft. daily capacity. Enlargement and improvement of the Canadian Western Natural Gas Company Limited system serving Calgary and southern Alberta was also under way in 1954 and 1955. These two integrated pipeline systems can together meet daily demands in the order of 500,000,000 cu.ft.

Saskatchewan Power Corporation completed a 101 mile gas pipeline between Brock gas field and Saskatoon in 1953 and in 1954 tied the Brock and Coleville gas fields together with a 30 mile pipeline. In 1955 the Corporation constructed a 116 mile direct line from Coleville field to Saskatoon and a 110 mile line from Saskatoon to Prince Albert. This 1953-55 construction program has provided natural gas service to Saskatoon and Prince Albert and a number of communities in north-central Saskatchewan.

Section 2.—Oil Pipeline Statistics*

There were 23 oil pipelines operating in Canada at Dec. 31, 1954. Pipeline construction programs during 1954 raised the total mileage of Canada's oil pipeline system to 4,656, compared with 3,794 miles at the end of 1953.

Pipeline deliveries shown in Table 1 are made to non-pipeline carriers, foreign pipelines and terminals including refineries and distributing centres. Comparative statistics for years before 1950 are not available but deliveries were relatively small as the system of the Interprovincial Pipe Line Company did not go into operation until the latter part of 1950. Net gathering-system deliveries in Alberta fell sharply after the opening of the Interprovincial system because the new trunk line carried most of the oil formerly moved eastward in railway tank cars. Starting January 1953 the Imperial Pipe Line Company reported operations in Alberta as a gathering system only and for this reason Alberta gathering and trunk deliveries for 1953 are not strictly comparable with those for previous years.

* Statistics of oil pipelines are given in greater detail in the DBS monthly report, *Pipe Lines (Oil) Statistics*.

1.—Oil Delivered by Pipeline by Province in which Shipments Terminated or were Transferred to Other Carriers 1950-54

Province	1950	1951	1952	1953	1954
	bbl.	bbl.	bbl.	bbl.	bbl.
British Columbia ¹ —Trunk.....	—	—	—	1,540,011	14,566,334
Alberta ² —Gathering.....	10,481,002	2,802,125	2,004,346	10,885,727 ³	9,405,902
Alberta ² —Trunk.....	10,040,785	11,105,921	14,049,411	6,099,022 ³	7,046,706
Saskatchewan—Gathering.....	—	—	—	—	455,279
Saskatchewan—Trunk.....	2,089,487	9,782,698	11,164,892	14,189,654	13,736,412
Manitoba ⁴ —Trunk.....	1,100,602	19,088,726	27,630,314	36,682,639	41,519,892
Ontario ⁴ —Trunk.....	—	—	3,093,944	24,868,257	32,441,988
Quebec—Trunk.....	26,991,972	45,645,037	49,852,761	53,038,461	53,323,422
Totals, Net Delivered	50,703,848	88,424,507	107,795,668	147,303,771	172,495,935
Gathering.....	10,481,002	2,802,125	2,004,346	10,885,727	9,861,181
Trunk.....	40,222,846	85,622,382	105,791,322	136,418,044	162,634,754

¹ Including exports to U.S.A. at Sumas, B.C., of 953,403 bbl. in 1954, the first year of export. ³ Includes natural gasoline. ² See text above. ⁴ Including deliveries to U.S. pipelines at Gretna, Man., amounting to 949,470 bbl. in 1950, 14,525,755 bbl. in 1951, 21,520,764 bbl. in 1952, 30,524,131 bbl. in 1953 and 34,776,583 in 1954.

⁵ Products of refineries.

2.—Oil Delivered by Pipeline by Month in which Shipments Terminated or were Transferred to Other Carriers 1953 and 1954

Month	1953		1954	
	Gathering	Trunk	Gathering	Trunk
	bbl.	bbl.	bbl.	bbl.
January.....	1,190,776	9,534,525	858,203	14,551,518
February.....	858,453	9,313,189	705,572	13,070,955
March.....	842,419	10,062,887	513,974	12,302,819
April.....	420,458	10,909,350	805,290	11,415,327
May.....	722,037	11,636,997	812,909	13,992,843
June.....	978,593	11,985,569	937,257	13,678,836
July.....	1,018,764	12,560,753	1,031,621	13,761,581
August.....	1,007,835	12,002,197	1,094,474	12,882,173
September.....	1,190,159	10,825,738	840,512	13,908,064
October.....	983,644	11,941,465	547,220	14,334,184
November.....	801,030	12,117,381	764,700	13,760,765
December.....	871,559	13,527,993	949,449	14,975,689
Totals	10,885,727	136,418,044	9,861,181	162,634,754
Grand Totals	147,303,771		172,495,935	

Employee and revenue data shown in Table 3 do not include statistics for eight pipelines operated as departments of the oil companies which are manned by employees on the regular payrolls of those companies.

3.—Operating Statistics of Oil Pipelines 1953 and 1954

Item		1953	1954
Barrels Handled—gross daily average—			
Gathering.....	No.	160,123	193,308
Trunk.....	"	453,077	567,940
Barrel miles (trunk lines).....	'000,000	47,381	61,912
Average miles per barrel (trunk lines).....	No.	286.6	298.7
Average employees.....	"	951	1,185
Salaries and wages.....	\$	4,188,498	5,503,329
Man-hours worked by wage earners (including overtime).....	No.	586,268	621,700
Operating revenues.....	\$	27,076,790 ^r	41,721,714

CHAPTER XX.—COMMUNICATIONS

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

PART I.—GOVERNMENT CONTROL OVER AGENCIES OF COMMUNICATION*

The development and control of radio communication in Canada from the beginning of the century is outlined in the 1945 Year Book, pp. 644-647.

The present phase of national radio broadcasting in Canada was entered upon in 1936 when, with the passage of the Canadian Broadcasting Act, the Canadian Broadcasting Corporation replaced the Canadian Radio Broadcasting Commission. The Act gave the Corporation wide powers in the operation of the system and gave to the Minister of Transport the technical control of all broadcasting stations and the authority to make regulations for the control of any equipment liable to cause interference with radio reception.

Except for those matters covered by the Canadian Broadcasting Act, radio communications are now regulated under the Radio Act and Regulations. In addition all radio communication matters are administered in accordance with the provisions of the International Telecommunication Convention and Radio Regulations annexed thereto and in accordance with such regional agreements as the Inter-American Telecommunications Convention and Inter-American Agreement, and the North American Regional Broadcasting Agreement.

By Order in Council dated June 8, 1948 responsibility for telegraph and telephone services formerly operated by the federal Department of Public Works was transferred to the Minister of Transport. The general object of these services is to furnish wire communication for outlying and sparsely settled districts where commercial companies do not enter into the field and where the population must receive adequate communication services in the public interest.

* Revised in the Telecommunications Division, Department of Transport, Ottawa.

A Crown company, Canadian Overseas Telecommunication Corporation, was created by Act of Parliament (Dec. 10, 1949) to acquire for public operation certain external telecommunication assets in Canada, in keeping with the Commonwealth Telegraph Agreement signed May 11, 1948. This Agreement was designed to bring about the consolidation and strengthening of the radio and cable communication systems of the Commonwealth.

Land line telegraph and telephone tariffs and tolls charged by companies incorporated by the Federal Government are regulated by the Board of Transport Commissioners under the provisions of the Railway Act. Similarly tariffs and tolls charged to the public by individuals or companies for radio telephone communications within Canada are regulated by the Board of Transport Commissioners under the provisions of the Railway Act and the Regulations made under the Radio Act.

PART II.—WIRE COMMUNICATIONS*

Section 1.—Telegraphs

The early history of telegraphic communication in Canada is given in the 1934-35 Year Book, p. 778.

Federal Government Telegraph and Telephone Service.†—The services provided by the Federal Government include: telegraph and telephone services to scattered settlements along the coast of Cape Breton Island; cable services to Campobello, Grand Manan and other islands in the Bay of Fundy, to Prince Edward Island and to a number of small islands in the Gulf of St. Lawrence; cable connections with Manitoulin Island in Ontario as well as telephone lines thereon; certain lines to outlying districts in northern Saskatchewan; telegraph lines from Edmonton to the Athabasca and Peace River country in Alberta and an extensive telephone system in the latter area.

At Mar. 31, 1955 the Telegraph and Telephone Service comprised 3,277 miles of pole line, 7,610 miles of wire, 138 miles of submarine cable, and 27 radio stations. It provided telephone service for 2,631 subscribers with telephones of whom 454 were served through lines connected to other company exchanges. The number of telegraph messages handled by this service in 1955 was 275,112. Net revenue from telegraph and telephone sources was \$310,040 and operating expenses amounted to \$544,793.

The Northwest Communication System operates northwesterly from Edmonton to the Yukon-Alaska border and comprises 2,000 miles of pole line, 48,424 circuit-miles for telegraph purposes and 23,256 circuit-miles for telephone purposes. The system provides commercial telephone and telegraph services at airports, settlements and communities in northwest Canada, including Whitehorse, Y.T., and Dawson Creek and Fort St. John, B.C. During 1955 there were 121,758 telephone calls and 62,080 telegraph messages handled. Revenue amounted to \$1,931,077 and expenditure for operating and maintaining the system was \$1,627,650.

Telegraph Systems.—The Canadian telegraph systems are composed of lines owned by the Federal Government and by chartered railway and telegraph companies. The Canadian facilities, in proportion to population, are among the most extensive in the world and are operated under great climatic and geographical difficulties.

* Except where otherwise noted, this Part has been revised in the Public Finance and Transportation Division, Dominion Bureau of Statistics. The Division issues annual reports dealing with telegraph and telephone statistics.

† Revised in the Telecommunications Division, Department of Transport, Ottawa.

1.—Summary Statistics of Canadian Telegraphs 1945-54

Note.—Figures from 1920 are given in the corresponding table of previous Year Books beginning with the 1938 edition.

Year	Gross Revenue	Operating Expenses	Net Operating Revenue	Pole-Line Mileage	Wire Mileage	Employees ¹	Offices	Messages, Land ²	Cable-grams and Marconi-grams ³	Money Transferred
	\$	\$	\$	miles	miles	No.	No.	No.	No.	\$
1945.....	18,016,280	15,062,231	2,954,058	52,447	391,476	8,230	4,804	17,666,904	2,192,173	8,006,128
1946.....	17,997,726	16,028,900	1,968,826	52,523	400,981	8,603	4,707	18,441,841	1,845,539	9,247,100
1947.....	18,514,525	17,359,796	1,154,729	51,024	401,803	8,711	4,640	18,987,774	1,613,621	10,988,591
1948.....	19,422,788	20,292,402	Dr.869,614	50,958	405,640	9,093	4,679	19,013,468	1,579,679	11,512,194
1949.....	22,256,557	22,062,943	193,614	52,535	413,759	9,555	5,288	20,063,078	1,642,278	12,469,348
1950.....	23,922,225	22,545,625	1,376,600	51,999	414,943	9,757	5,277	20,477,775	1,687,721	12,733,989
1951.....	29,128,473	27,807,547	1,320,926	53,580	435,348	10,611	5,233	21,815,837	1,785,836	16,955,699
1952.....	33,093,843	31,617,156	1,476,687	52,699	437,581	11,272	5,256	21,614,196	1,934,433	19,514,490
1953.....	36,920,384	33,953,196	2,967,188	52,727	450,835	11,618	5,307	21,222,706	2,042,921	21,553,387
1954.....	38,203,500	33,203,942	4,999,648	46,294	434,178	10,629	5,015	19,906,354	2,105,513	21,550,372

¹ Excludes commission operators.

² Includes messages to and from vessels on the Great Lakes and the St. Lawrence River and messages to and from stations.

³ Excludes messages relayed and includes paid wireless messages to and from ships in the Gulf of St. Lawrence and on the Atlantic Ocean.

Submarine Cables.—Four cable companies operate submarine cables landing in Canada: Cable and Wireless Limited; the Commercial Cable Company; the Western Union Telegraph Company; and the French Telegraph Cable Company. These companies operate to stations in the United Kingdom, Ireland, the United States, Bermuda, Australia, New Zealand, and St. Pierre and Miquelon Islands. The number of cables operating between connected stations and the length of cables are given in the following table.

2.—Cable Landings in Canada 1954

Company and Station	Cables	Nautical Miles
	No.	No.
Canadian Overseas Telecommunication Corporation—		
Halifax, N.S. to St. John's, Nfld.—St. John's, Nfld. to Porthcurnow, England.....	1	2,656
Halifax, N.S. to Horta, Azores—Horta, Azores to Porthcurnow, England.....	2	3,225
Bamfield, B.C. to Sydney, Australia.....	1	7,830
Bamfield, B.C. to Auckland, New Zealand.....	1	6,748
Halifax, N.S. to Bermuda.....	1	874
Commercial Cable Company—		
Canso, N.S. to St. John's, Nfld.....	2	910
Canso, N.S. to Far Rockaway, N.Y., U.S.A.....	3	2,892
Canso, N.S. to Horta, Azores—Horta, Azores to Waterville, Ireland.....	2	3,419
St. John's, Nfld. to Waterville, Ireland.....	4	7,279
St. John's, Nfld. to Far Rockaway, N.Y., U.S.A.....	2	2,592
Western Union Telegraph Company—		
North Sydney, N.S. to St. Pierre and Miquelon Islands.....	2	395
North Sydney, N.S. to Island Cove, Nfld.....	2	635
North Sydney, N.S. to Colinet, Nfld.....	1	323
Canso, N.S. to Hammel, N.Y., U.S.A.....	2	1,589
Canso, N.S. to Duxbury, Mass., U.S.A.....	1	573
Canso, N.S. to St. Pierre and Miquelon Islands.....	1	253
North Sydney, N.S. to Canso, N.S.....	2	251
Hearts Content, Nfld. to Valentia, Ireland.....	3	5,658
Bay Roberts, Nfld. to Penzance, England.....	4	8,457
Bay Roberts, Nfld. to Horta, Azores.....	1	1,341
Bay Roberts, Nfld. to Hammel, N.Y., U.S.A.....	2	2,760
Placentia, Nfld. to St. Pierre and Miquelon Islands.....	2	250
Islands Cove Hut, Nfld. to St. Pierre and Miquelon Islands.....	1	130
French Telegraph Cable Company—		
Canso, N.S. to St. Pierre and Miquelon Islands.....	1	257

Section 2.—Telephones

The tremendous growth of Canadian telephone systems in the past ten years has been matched by their technological development. Automation in the Canadian telephone industry began on a large scale about thirty years ago with the introduction of dial telephones and step-by-step equipment for automatic completion of local calls. About 70 p.c. of all telephones in Canada are now served by this method and the proportion is increasing steadily. Crossbar, a type of automatic switching equipment faster and more flexible than step-by-step, is now being introduced in several Ontario and Quebec communities with heavy calling volumes. The same basic type of crossbar switching is employed in the new regional long-distance office opened at Toronto in 1955; a similar installation will soon be placed in service at Montreal. These machines enable operators to dial calls directly to telephones in many distant cities across the continent. Within a few years the extension of this system to most major centres in Canada and the United States, and the addition of automatic call accounting machines, will make it possible for customers themselves to dial a large percentage of long-distance calls.

These developments in the automatic switching of long-distance calls are accompanied by advances in the provision of transmission channels on a trans-Canada basis. The first inter-system microwave radio relay chain, between Toronto and Winnipeg, is under construction by The Bell Telephone Company of Canada and the Manitoba Telephone System. Projected extensions eastward and westward, with Bell's existing Ontario-Quebec chain as a nucleus, aim at coast-to-coast microwave facilities for telephone and television purposes by mid-1958.

Long-distance services make possible the interconnection of practically any telephone across the country with any other, or with any of the 53,000,000 telephones in the United States. Connections are also available with more than 100 other countries and territories. Within Canada, long-distance service is provided by the separate systems and, on a nationwide scale, by seven major systems which constitute the Trans-Canada Telephone System.

More reliable transatlantic telephony, over submarine cable, will become a reality in 1956 with the expected completion towards the year end of cables between Nova Scotia and Newfoundland and between Newfoundland and Scotland. This joint project of Canadian Overseas Telecommunication Corporation, the American Telephone and Telegraph Company and the British Post Office approached the halfway mark in 1955 with the successful laying of the first of two cables linking Clarenville, Nfld., with Oban, Scotland. Many years of intensive research on both sides of the Atlantic have culminated in the design of a repeatered cable that meets the exacting requirements of voice communication and promises to function reliably over a long-service life.

Canadian manufacturing companies produce the greater part of the telephone equipment and materials used in this country. Dependable high quality is maintained and desired uniformity is made possible in operating and maintenance practices across the country.

Telephone Systems.—The 2,788 separate telephone systems, large and small, operating in Canada in 1954 co-operated in providing service across the country; 2,236 of these were small co-operative systems in rural districts and 389 were shareholder-owned companies. The largest of the latter were The Bell Telephone Company of Canada operating in Ontario and Quebec and serving 60 p.c. of all the telephones in Canada, and the British Columbia Telephone Company serving 9 p.c. of the total. Four private companies serve the Atlantic Provinces and three systems operated by the respective provincial governments serve the Prairie Provinces.

Telephone Equipment.—Because of the insistent demand for increased telephone service the number of telephones in use in Canada has more than doubled in the past ten years. At Dec. 31, 1954 there were 3,860,269 telephones in service compared with 1,848,794 in 1945. During 1954 a total of 253,862 telephones were installed, almost equalling the record of 1953, but at the end of the year many thousands of unfilled orders remained for both main service and higher grades of service. The number of residential telephones increased 8 p.c. during the year, business telephones 6 p.c., rural telephones 5 p.c. and pay telephones 7 p.c. Many exchanges were converted to dial operation in 1954 and by the end of the year 72 p.c. of all telephones in Canada were dial, the remainder being operated from manual switchboards. Pole line mileage and mileage of wire continues to increase year by year.

3.—Mileages of Pole Line and Wire and Number of Telephones in Use 1945-54

Note.—Figures from 1911 are given in the corresponding table of previous Year Books beginning with the 1938 edition.

Year	Systems	Pole Line Mileage ¹	Mileage of Wire	Telephones in Use					
				Business	Resi- dential	Rural ²	Public Pay	Total	Per 100 Popu- lation
	No.	miles	miles	No.	No.	No.	No.	No.	No.
1945	3,151	222,435	6,333,761	531,697	983,074	300,757	33,266	1,848,794	15.3
1946	3,114	228,983	6,770,137	585,982	1,079,769	326,405	33,962	2,026,118	16.5
1947	3,056	232,054	7,285,681	645,154	1,194,840	354,779	35,824	2,230,597	17.7
1948	2,992	235,379	7,913,068	701,869	1,328,373	383,227	38,399	2,451,868	19.0
1949	2,971	242,147	8,725,760	762,294	1,481,876	414,061	41,381	2,699,612	19.9
1950	2,912	245,443	9,488,467	813,352	1,611,759	447,691	44,290	2,917,092	21.1
1951	2,904	228,983	10,330,361	864,015	1,735,355	467,171	47,225	3,113,766	22.2
1952	2,888	253,420	11,265,903	920,269	1,888,889	492,753	50,455	3,352,366	23.2
1953	2,793	257,059	12,307,070	988,489	2,053,944	513,061	50,913	3,606,407	24.4
1954	2,788	257,444	13,357,289	1,053,852	2,213,154	538,660	54,603	3,860,269	25.4

¹ Includes underground conduits.

² Includes telephones on rural exchange lines and urban exchange lines having more than four parties.

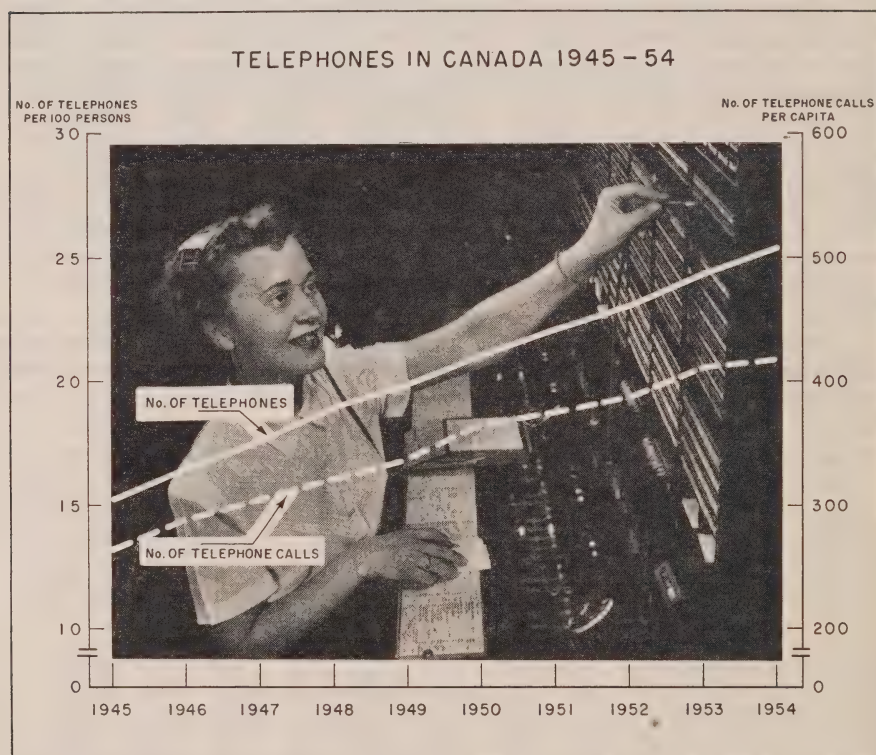
The density of telephones in the different provinces is influenced by the urbanization of the population—the number of telephones used for business purposes is much greater in cities and towns than in rural areas.

4.—Telephones in Use by Province 1953 and 1954

Province or Territory	On Individual Lines		On 2 and 4 Party Lines		On Rural Lines		Private Branch Exchanges and Extensions		Public Pay Sta- tions	Total	Tele- phones per 100 Popu- lation
	Busi- ness	Resi- dence	Busi- ness	Resi- dence	Busi- ness	Resi- dence	Busi- ness	Resi- dence			
	No.	No.	No.	No.	No.	No.	No.	No.			
1953											
Nfld.	6,249	4,167	97	9,574	20	779	4,231	1,533	286	26,936	7.0
P.E.I.	1,498	1,707	184	3,689	316	3,602	1,494	481	79	13,050	12.3
N.S.	11,348	33,219	687	35,275	1,916	21,289	16,155	7,011	1,543	128,443	19.4
N.B.	7,330	15,319	1,202	29,310	1,734	18,691	12,688	4,198	1,199	89,671	16.7
Que.	90,785	158,343	10,063	353,425	16,968	78,620	166,851	38,856	18,919	932,830	21.9
Ont.	135,604	221,410	12,540	581,420	10,173	175,462	261,132	88,729	20,536	1,506,906	30.8
Man.	18,640	53,923	324	51,778	4,624	26,249	27,248	7,018	2,533	192,337	23.8
Sask.	19,476	63,804	818	3,056	2,546	57,382	14,220	3,199	916	165,417	19.2
Alta.	34,949	96,715	18	778	1,601	25,499	33,778	8,091	1,443	202,872	20.2
B.C.	38,478	9,185	1,162	157,541	5,503	62,046	59,279	11,097	3,459	347,750	28.3
Yukon	26	5	35	88	12	29	—	—	—	195	2.2
Totals ...	364,283	657,797	27,130	1,225,934	45,413	467,648	597,076	170,213	50,913	3,606,407	24.4

4.—Telephones in Use by Province 1953 and 1954—concluded

Province or Territory	On Individual Lines		On 2 and 4 Party Lines		On Rural Lines		Private Branch Exchanges and Extensions		Public Pay Stations	Total	Telephones per 100 Population
	Business	Residence	Business	Residence	Business	Residence	Business	Residence			
1954	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Nfld.....	7,296	4,758	158	10,059	50	931	4,883	1,621	318	30,074	7.6
P.E.I.....	1,511	1,993	160	3,597	293	3,713	1,607	541	85	13,500	12.9
N.S.....	11,734	37,491	671	33,812	1,910	21,701	17,062	7,690	1,649	133,720	19.9
N.B.....	7,672	17,331	1,127	30,351	1,596	16,893	13,479	4,651	1,278	94,378	17.3
Que.....	95,992	192,615	8,986	358,895	16,253	87,032	180,926	43,402	20,101	1,004,202	22.9
Ont.....	142,708	255,150	11,651	606,652	9,962	179,451	282,351	97,267	21,863	1,604,055	31.8
Man.....	18,979	56,787	321	58,724	4,806	26,825	29,651	7,870	2,329	206,292	24.9
Sask.....	20,026	68,604	957	4,844	3,209	56,785	15,900	3,484	983	174,792	19.9
Alta.....	37,636	108,645	22	687	1,730	25,547	37,014	9,003	1,498	221,782	21.3
B.C.....	39,209	10,676	363	163,498	5,511	74,399	63,743	12,377	4,499	374,275	29.6
Yukon.....	26	5	31	74	31	32	—	—	—	199	2.0
Totals....	382,789	754,055	24,447	1,271,193	45,351	493,309	646,616	187,906	54,603	3,860,269	25.4



Telephone Calls.—The major telephone systems make counts of completed calls on representative days throughout the year and on this basis estimate the number of local conversations which, added to the actual count of long-distance calls, give their total

volume of business. Estimates are included for the small systems which do not count completed calls. The number of completed calls on all systems in 1954 was estimated at 6,347,532,000 compared with 6,084,655,000 calls in 1953, or an average of 1,644 calls per telephone and 418 calls per person compared with 1,687 calls per telephone and 412 per person in 1953.

Extended area service which eliminates toll charges between adjacent communities was introduced in more centres across Canada but, despite this service, long-distance calls increased by 5,862,000 to a total of 137,761,000 for the year 1954.

5.—Local and Long-Distance Calls and Average Calls per Telephone and per Capita 1945-54

NOTE.—Figures from 1928 will be found in the corresponding tables of previous Year Books beginning with the 1939 edition.

Year	Local Calls	Long-Distance Calls	Total Calls	Total Calls per Capita ¹	Average Calls per Telephone		
					Local	Long-Distance	Total
	No.	No.	No.	No.	No.	No.	No.
1945.....	3,145,492,000	64,788,000	3,210,280,000	266	1,701	35.0	1,736
1946.....	3,484,248,000	74,757,000	3,559,005,000	290	1,720	36.9	1,757
1947.....	3,760,569,000	82,695,000	3,843,264,000	306	1,886	37.1	1,723
1948.....	4,025,342,000	91,875,000	4,117,217,000	321	1,642	37.5	1,680
1949.....	4,454,024,000	105,232,000	4,559,256,000	339	1,650	39.0	1,689
1950.....	4,894,719,000	117,892,000	5,012,611,000	366	1,678	40.4	1,718
1951.....	5,146,238,000	127,406,000	5,273,644,000	376	1,653	40.9	1,694
1952.....	5,482,973,000	126,721,000	5,609,694,000	389	1,635	37.8	1,673
1953.....	5,952,756,000	131,899,000	6,084,655,000	412	1,650	36.6	1,687
1954.....	6,209,771,000	137,761,000	6,347,532,000	418	1,608	35.7	1,644

¹ Per capita figures are based on official estimates of population given at p. 151.

Finances, Employees and Earnings.—The steady increases in capitalization and revenue and expenditure of telephone companies together with the increases in number of employees and salaries and wages paid are shown for the years 1945-54 in Table 6. Provincial figures for 1953 and 1954 are given in Table 7.

6.—Financial Statistics of Telephones 1945-54

NOTE.—Figures from 1911 are given in the corresponding table of previous Year Books beginning with the 1938 edition.

Year	Capital Stock	Funded Debt	Cost of Property and Equipment	Income	Expenditure	Net Income	Em- ployees	Salaries and Wages
	\$	\$	\$	\$	\$	\$	No.	\$
1945.....	138,680,893	153,934,250	418,434,346	109,899,862	96,417,884	13,481,978	25,599	41,830,117
1946.....	158,430,612	156,099,974	454,214,793	120,675,038	105,750,974	14,924,064	33,170	54,147,432
1947.....	183,469,710	171,810,793	521,183,575	134,666,857	116,623,149	18,043,708	35,578	66,623,983
1948.....	194,465,399	238,762,614	615,941,540	150,533,349	131,570,434	18,962,915	38,851	77,497,980
1949.....	229,208,219	267,987,289 ¹	716,519,781	169,113,048	153,066,308	16,046,740	42,326	90,634,477
1950.....	274,088,405	286,752,783 ¹	806,826,198	198,823,483	178,193,661	20,629,822	45,396	102,093,078
1951.....	286,003,119	307,623,351 ¹	909,581,399	240,762,657	213,824,471	26,938,186	47,387	117,677,652
1952.....	335,575,292	378,628,224 ¹	1,027,527,807	279,001,814	244,506,402	34,495,412	48,207	131,370,832
1953.....	398,198,697	450,511,233	1,152,309,749	310,833,599	269,817,828	41,015,771	50,540	145,109,934
1954.....	418,287,016	498,231,715	1,301,545,688	340,623,170	296,384,292	44,238,878	51,929	159,329,238

¹ Revised to exclude reserves of provincial government systems.

7.—Financial Statistics of Telephones by Province 1953 and 1954

Year and Province	Capital Liability	Cost of Property and Equipment	Income	Expenditure	Net Income	Em- ployees	Salaries and Wages
	\$	\$	\$	\$	\$	No.	\$
1953							
Nfld.....	5,022,950	5,488,887	1,154,582	962,132	192,450	255	447,096
P.E.I.....	2,735,450	3,496,505	835,517	746,984	88,533	135	295,926
N.S.....	31,321,174	37,818,580	9,487,995	8,212,734	1,275,261	1,750	4,010,543
N.B.....	25,546,411	32,624,195	7,623,645	6,537,991	1,085,654	1,386	3,168,403
Que.....	546,670,588 ¹	303,085,886	213,237,059 ¹	185,338,332 ¹	27,898,727 ¹	13,404	43,430,851
Ont.....	13,222,763	478,396,590	8,533,358	7,362,090	1,171,268	20,019	58,103,720
Man.....	77,792,957	69,764,004	10,968,271	11,285,799	-317,528	3,099	7,616,404
Sask.....	61,379,583	58,140,132	13,090,407	11,189,698	1,900,709	1,732 ²	4,723,216 ²
Alta.....	61,286,905	64,140,275	15,978,960	11,059,289	4,919,671	2,457	7,031,760
B.C.....	84,572,625	99,323,772	29,907,405	27,104,424	2,802,981	6,300	16,267,108
Yukon.....	65,000	30,923	16,400	18,355	-1,955	3	14,907
Totals.....	909,616,406	1,152,309,749	310,833,599	269,817,828	41,015,771	50,540	145,109,934
1954							
Nfld.....	5,041,900	6,114,191	1,300,532	1,060,838	239,694	281	559,335
P.E.I.....	2,734,261	3,591,193	905,053	809,039	96,014	133	284,385
N.S.....	31,549,779	40,676,230	10,189,832	8,816,314	1,373,518	1,725	4,261,977
N.B.....	30,160,739	35,880,472	8,290,238	7,138,991	1,151,247	1,366	3,447,027
Que.....	586,192,081 ¹	342,804,323	232,347,573 ¹	202,538,723 ¹	29,808,850 ¹	14,095	47,979,306
Ont.....	13,196,030	537,172,047	9,054,917	7,794,738	1,260,179	20,471	63,415,802
Man.....	51,812,067	76,897,267	11,814,025	12,738,280	-924,255	3,138	8,367,848
Sask.....	46,929,950	67,090,926	15,150,594	12,234,023	2,916,571	1,824 ²	5,474,574 ²
Alta.....	52,659,549	75,724,942	17,819,080	12,903,327	4,915,753	2,610	7,748,145
B.C.....	96,177,375	115,560,897	33,735,396	30,332,495	3,402,901	6,282	17,775,967
Yukon.....	65,000	33,200	15,930	17,524	-1,594	4	14,872
Totals.....	916,518,731	1,301,545,688	340,623,170	296,384,292	44,238,878	51,929	159,329,238

¹ Statistics of The Bell Telephone Company for both Quebec and Ontario are included under Quebec.

² Excludes wages and employees for rural systems.

PART III.—RADIO COMMUNICATIONS

Section 1.—Administration*

The administration and regulation of radio communication in Canada is carried out by the Telecommunications Division of the Department of Transport. The radio activities of the Division may be summarized as follows: (1) the administration of national and international radio laws and regulations and of regional agreements, involving the issuance of radio licences, inspection of radio stations, certification of radio equipment, examination of operators, allocation and monitoring of frequencies, study of radio wave propagation, compilation and settling of international accounts for radio messages, investigation and suppression of inductive interference to radio reception; and (2) construction, maintenance and operation of radio communication stations and radio aids to marine and air navigation.

National and international radio laws and regulations include: the Canadian Broadcasting Act, the Radio Act and Regulations made thereunder; the International Telecommunication Convention and Radio Regulations annexed thereto; the Inter-American Radiocommunications Convention; the Inter-American Arrangement Concerning Radiocommunications; the North American Regional Broadcasting Agreement; those Articles of the International Civil Aviation Convention applicable to aeronautical radio requirements; the Canada Shipping Act and Radio Regulations for Ship Stations issued thereunder, and that part of the International Convention for the Safety of Life at Sea applicable to radio requirements for ships.

* Revised in the Department of Transport, Ottawa.

Licensing and Operation.—In all branches of radio, basic control is exercised over the right to establish a station, assignment of frequencies, operator standards, operating procedure, and general regulations concerning the manner in which radio stations are used.

Under the Broadcasting Act applications for licences to establish broadcasting stations, or for modification of existing stations, are referred to the Canadian Broadcasting Corporation for its recommendations to the Minister of Transport before being dealt with by the Department of Transport. The Canadian Broadcasting Corporation also controls the linking-up of stations that form networks and in addition the character of programs being broadcast. With these exceptions the control of broadcasting stations is carried out by the Telecommunications Division of the Department of Transport.

The standard broadcast band is crowded with stations that are capable of interfering with one another over the entire North American region, particularly at night. A plan for the accommodation of the largest number of stations with the least interference was evolved as a result of extensive studies conducted by Canada, Cuba, the Dominican Republic, Haiti, the Bahama Islands, Mexico, and the United States and was embodied in the North American Regional Broadcasting Agreement.

Before a new standard broadcasting station can be licensed or before modifications can be made in an existing station, engineering briefs covering the selection or change of frequency, amount of power and design of the directional antenna system must be approved by the Department of Transport and notification sent to the signatory countries of the North American Regional Broadcasting Agreement. After the establishment or change is completed, proof of performance must be submitted to establish that the actual installation is in accordance with the approved plan.

The allocation of high frequencies and their efficient utilization requires reasonably accurate information on the transmission properties of the ionosphere which vary with the season, the sunspot cycle and other factors. This information is obtained from hourly measurements of the ionosphere made at some 70 points throughout the world and analysed by the Radio Physics Laboratory, Defence Research Board, Ottawa, and by the United States Bureau of Standards at Washington, D.C. The Canadian measurement stations are located at St. John's, Nfld.; Resolute Bay, Cornwallis Island and Baker Lake, N.W.T.; Fort Chimo, Que.; Churchill and Headingley, Man.; Ottawa, Ont.; and Prince Rupert, B.C. Data from these stations are correlated by the Defence Research Board. Six frequency monitoring stations are maintained at suitable points across Canada to check operating frequencies of all classes of radio stations to ensure that they do not depart from the assigned frequency by an amount greater than that permitted by the international conventions.

Under the Safety of Life at Sea Convention and the Canada Shipping Act, most passenger ships and larger cargo ships must be fitted with radiotelegraph or radiotelephone equipment, primarily for distress use. Approval is given for each make and model of equipment that comes up to the required standard and in addition the ship station as a whole is inspected before the licence is issued and periodically thereafter. Foreign ships are subject to inspection before sailing from Canadian ports to ensure that they conform with the requirements of the Safety of Life at Sea Convention.

Analogous inspections of aircraft radio stations are carried out. Standards are provided specifying in detail the requirements to be met to ensure an airworthy installation. A certificate of airworthiness is granted to manufacturers for each type or model of aircraft radio equipment that has been demonstrated to meet the requirements. Only type-certificated equipment is accepted for use on scheduled airlines although other equipment, if inspected, is acceptable for other aircraft.

Marine and aeronautical radio operator standards and related regulations are covered by international agreement. The International Telecommunication Convention prescribes the qualifications for radio operators on mobile stations and the Radio Act provides that all operators, both commercial and amateur, must pass examinations to prove their ability to operate the respective classes of stations on which they are engaged. Competent operators are required on all classes of stations in order that the technical requirements prescribed under international agreement be closely adhered to and are particularly essential on ship and aircraft stations in the interests of safety of life.

Investigation and Suppression of Inductive Interference.—Under the Radio Act the use of electrical equipment that will produce harmful interference to broadcast reception is not permitted. The Telecommunications Division of the Department of Transport maintains 53 cars equipped for measuring and locating sources of interference to broadcast reception. In addition to locating the sources of interference, advice is given as to how it can be suppressed or eliminated. These cars operate from the permanent Radio Inspection Offices located in 25 cities throughout Canada.

1.—Investigations of Inductive Interference, Years Ended Mar. 31, 1951-54

Item	1951	1952	1953	1954
	No.	No.	No.	No.
Sources Investigated—				
Electrical distribution systems and power lines.....	1,836	2,307	2,191	2,016
Domestic and commercial electrical apparatus.....	7,756	5,022	6,205	5,439
Defective receivers and radio apparatus.....	1,054	1,123	1,786	1,944
Industrial, scientific and medical apparatus.....	456	50	128	50
Miscellaneous (external cross-modulation, etc.).....	2	4	7	11
Totals.....	11,104	8,506	10,317	9,460
Action Taken—				
Sources reported cured.....	8,976	7,177	9,068	8,883
Sources not reported cured.....	2,029	1,287	1,130	385
Sources having no economic cure.....	99	42	119	192

Industrial, scientific and medical apparatus is brought under strict control in accordance with Regulations for Controlling Radio Interference and under the authority of the Radio Act. Regulations require that radiation from such apparatus, which is liable to cause interference to radio communications, must be suppressed either by shielding or by replacing the apparatus with a non-interfering type. The Department of Transport conducts type tests on diathermy and industrial heating apparatus submitted by manufacturers, and the types that fulfil the requirements of the Department are listed as non-interfering. The radiation from all such sources on communication frequencies must not exceed the tolerances specified by the Canadian Standards Association.

Radio Revenue.—Regulations concerning the rendering and settlement of international accounts are contained in the International Telecommunication Convention and Regulations. Sources of revenue include commercial ship and inter-station messages handled by Departmental ships and land stations, radiotelegrams exchanged by foreign ships through Canadian coast stations, private commercial traffic via Departmental airway

radio stations, and radio services rendered to aircraft of private airline companies by such stations. The volume of messages and words handled during the year ended Mar. 31, 1955 and the revenue therefrom, together with revenue from licence fees, examination fees, fines and forfeitures, rentals, etc., are given in Table 2.

**2.—Messages and Words Handled and Revenue Collected by the
Department of Transport, Year Ended Mar. 31, 1955**

Stations	Messages	Words	Revenue
	No.	No.	\$
Marine—			
East Coast.....	371,618	11,548,247	116,532
Great Lakes.....	52,844	940,584	28,274
West Coast.....	452,372	14,078,929	74,049
Hudson Bay and Strait.....	167,016	10,260,364	8,975
Premium revenue.....	...	...	14,066
Aeronautical—			
Private, commercial and aeronautical messages.....	..	..	18,078
Radio service to airline companies.....	..	..	357,941
Telephone service.....	..	..	225
Totals, Marine and Aeronautical.....	1,043,850	36,828,124	618,740
Other Radio Revenue—			
Examination fees—Radiotelegraph Operators' Certificates of Proficiency.....			1,902
Fines and forfeitures under the Radio Act, 1938.....			220
Licence fees (excl. private commercial broadcasting stations).....			177,426
Publications.....			2,545
Rentals.....			206,419
Miscellaneous.....			39,735
Totals, Other Radio Revenue.....			428,247
Grand Total, Radio Revenue.....			1,046,987
Collected from the issuance of private commercial broadcasting station licences.....			161,267

Section 2.—Radio Stations and Services

Subsection 1.—Radio Stations Operating in Canada

Radio stations operating in Canada and on ships and aircraft registered in Canada are classified by type in Table 3. In addition to the radio services under its own control the Department of Transport is concerned with the regulation of the radio services of other government departments, with special reference to the assignment of suitable frequencies and the application of techniques compatible with frequency planning and with public and private radio services. The Department of National Defence, in addition to stations established for military purposes, operated 13 permanent stations in 1955; the Department of Agriculture 15; the Department of Citizenship and Immigration 4; the Department of Fisheries 14; the Department of Mines and Technical Surveys 62; the Department of National Health and Welfare 12; the Department of National Revenue 2; the Department of Public Works 6; the Department of Northern Affairs and National Resources 112; the National Research Council 16; and the Royal Canadian Mounted Police 994.

3.—Radio Stations in Operation by Type as at Mar. 31, 1955

Class	No.	Class	No.
Department of Transport Stations—		Other Stations—	
Coast stations.....	39	Ship stations (class A).....	4,135
Marine radiobeacon stations.....	56	Ship stations (class B—receiving only).....	6
Radio links.....	9	Limited coast stations.....	18
Lighthouse radiotelephone stations.....	166	Aircraft stations.....	1,626
Canal radiotelephone stations.....	5	Public commercial stations.....	386
Loran stations.....	6	Private commercial stations.....	12,300
Ionosphere stations.....	5	Municipal services stations.....	342
Monitoring stations.....	6	Private commercial broadcasting stations (sound)—	
Ship stations (class A).....	40	Operated by the Canadian Broadcasting Corporation.....	109 ¹
Aircraft stations.....	29	Operated by private owners.....	191
Radio range stations.....	95	Private commercial broadcasting stations (television)—	
Combined radio range and aeronautical communications stations.....	55	Operated by the Canadian Broadcasting Corporation.....	7
Combined aeronautical radiobeacon and communications stations.....	6	Operated by private owners.....	4
Instrument landing installations.....	26	Technical or training schools.....	10
Aeronautical radiobeacons.....	31	Experimental stations.....	180
Aeronautical communications stations.....	7	Commercial receiving stations.....	344
Fan marker stations.....	10	Amateur experimental stations.....	7,340
Weather reporting stations.....	6	Total, All Stations.....	27,595

¹ Includes 54 repeater stations.

The foregoing classes are numerous and complicated by the fact that many of them perform closely related functions. Descriptions of the services provided by different types of government operated stations are given in the 1951 Year Book, pp. 804-808.

Subsection 2.—Federal Radio Communication Services

The Canadian Overseas Telecommunication Corporation.—By virtue of the Canadian Overseas Telecommunication Corporation Act which came into force on Jan. 1, 1950 (R.S.C. 1952, c. 42), the Canadian Overseas Telecommunication Corporation was established to acquire, maintain and operate the external telecommunication facilities in Canada of Cable and Wireless Limited and the Canadian Marconi Company Limited. The Corporation consists of five Directors, one of whom is also President and General Manager of the Corporation.

Since May 1, 1952 the Corporation has been maintaining the said facilities. Headquarters are located at Montreal and overseas cable stations at Bamfield, B.C., Halifax, N.S., and Harbour Grace and St. John's, Nfld. Wireless transmitting and receiving stations are located at Drummondville and Yamachiche, Que., respectively. The functions of the Corporation may be expressed as follows:—

- to establish, maintain and operate in Canada and elsewhere external telecommunication services for the conduct of public communications;
- to carry on the business of public communications by cable, radiotelegraph, radiotelephone or any other means of telecommunication between Canada and any other place and between Newfoundland and any other part of Canada;
- to make use of all developments in cable and radio transmission or reception for external telecommunication purposes as related to public communication services;
- to conduct investigations and researches with the object of improving the efficiency of telecommunication services generally; and
- to co-ordinate Canada's external telecommunication services with the telecommunication services of other parts of the Commonwealth.

Radio Aids to Marine Navigation.—Radio aids to marine navigation are provided for about 4,000 radio-equipped Canadian vessels and almost as many foreign ships using Canadian waters. A safety and communications service for shipping is provided covering the East and West Coasts, the Great Lakes, the St. Lawrence River and Gulf, and Hudson Bay and Strait. Details of these services, outlined below, may be obtained on request from the Department of Transport, Ottawa.

Coast Radio Stations.—Coast stations provide a safety watch and communications service for ships at sea and provide, as well, regularly broadcast weather reports, storm warnings and notices of dangers to navigation. The stations carry out communications by radiotelegraph or radiotelephone, or both, and many of them provide connections to land telephone lines so that ships may communicate directly with any telephone subscriber. At Halifax (CFH) and Vancouver (CKN), shortwave facilities are furnished for worldwide communications. These stations participate in the British Commonwealth scheme.

The coast stations on Hudson Bay and Strait, in addition to the regular services, provide commercial communications for posts of the Hudson's Bay Company and various prospecting and development organizations, make weather observations, handle administrative traffic and assist aircraft with information, landing conditions and direction finding bearings.

Direction Finding Service.—Coast radio direction finding stations are operated on the Atlantic and Pacific Coasts and on the Hudson Bay and Strait, which enable ships to obtain a line of bearing from the station. No charge is made for this service.

A chain of automatic radiobeacon stations is also maintained to provide a navigational aid to mariners by transmitting signals on which bearings may be taken by ships. These stations are arranged, where possible, in groups of three, transmitting on a common frequency but in proper time sequence so as to avoid interfering with each other. A navigator may thus obtain three bearings within three consecutive minutes and fix his location. A number of radiobeacons are synchronized with fog alarms at the same point, for distance finding in foggy weather. Ships may also request the transmission of signals from the coast stations for direction finding purposes.

Loran Stations.—Loran is a long-range radio aid to marine and air navigation which provides accurate fixes at distances up to 600 miles by day and 1,500 miles by night. Two loran stations operate in Nova Scotia, three in Newfoundland and one on the West Coast. These stations, in conjunction with loran stations of the United States Coast Guard, give service to ships and aircraft plying the North Atlantic and Pacific Oceans.

Radar.—It has become general practice to equip merchant ships with radar, a valuable aid to marine navigation, and many important buoys are fitted with radar reflectors to increase their radar visibility. Two shore-based radar installations are in operation—one at Camperdown near the mouth of Halifax Harbour and the other on the Lion's Gate Bridge across the entrance to Vancouver Harbour.

Miscellaneous Services.—Lighthouses, particularly at locations where they would otherwise be completely cut off from summoning help in case of illness, are provided with low-power transceivers for use in emergencies. Lighthouse radiophone stations are organized into groups working into a control station.

Ships at sea may obtain medical advice from any coast station. The messages are delivered to the port medical officer of the Department of National Health and Welfare and replies are transmitted to the ship free of charge.

Radio and radar equipment used aboard vessels of the federal marine, pilotage and canal services, vessels operated by the Department of Fisheries and the Department of Mines and Technical Surveys and Canadian National Railway ferries is maintained by the Telecommunications Division of the Department of Transport.

Radio Aids to Aeronautical Navigation.—Radio aids to air navigation are provided from coast to coast and from the Canada-United States border to the Arctic along and off the airways, and are used by many Canadian and foreign air carriers flying over Canadian territory. Trained engineers and technicians are assigned to six District Offices located at Vancouver, B.C., Edmonton, Alta., Winnipeg, Man., Toronto, Ont., Montreal, Que., and Moncton, N.B., in order that facilities may be constructed and efficiently operated.

Radio Ranges.—The principal radio aid to air navigation provided by the Department of Transport is the low frequency radio range station, located approximately every hundred miles along airways. It provides specific track guidance to pilots by means of audible signals and the signals may also be used for the purpose of obtaining direction finding bearings. In addition radiotelephone communications are provided between ground and aircraft, by which means pilots may obtain weather data, air traffic control instructions and other information concerning the safety of flights.

There are now being constructed a number of very high frequency omni-directional ranges (VOR). Unlike the existing radio range stations this type of facility does not limit the aircraft using the station to one of four distinct courses, but enables the pilot to select at will his desired course. Construction is advancing on facilities to form a six-station omni-range airway between Montreal, Que., and Windsor, Ont., with standard 200 watt installations located at Montreal, Ottawa, Stirling, Toronto, London and Windsor. Work has also started on six additional stations for a high altitude airway from Toronto, Ont., to Winnipeg, Man., and on one isolated station at Gander, Nfld.

Beacons, Markers, etc.—Aeronautical radiobeacon stations provide radio signals with which pilots may use their direction finding equipment to obtain relative directional bearings. Fan markers, operating on very high frequencies, are usually placed on an airway so as to inform the pilot when he may safely lose altitude after passing high terrain or to indicate accurately the distance from an airport. Station location markers are similar to fan markers except that the signal radiated is such that aircraft may receive the same indication irrespective of the direction of flight. They are installed at the same location as a radio range to enable a pilot to determine when he is exactly over the station, thus obtaining definite indication of position. Station location markers are installed at most radio range sites.

Instrument Landing Systems.—Instrument landing systems provide radio signals which, when received by special radio equipment aboard aircraft, permit pilots to approach airports for landing during periods of very low visibility. An installation normally consists of a localizer transmitter providing lateral guidance to the runway, a glide path transmitter for slope guidance to the approach end of the runway, two marker transmitters giving distance indications from the runway and a low power radiobeacon (compass locator) to assist in holding procedures and lining up on the localizer course. The localizer and marker transmitters operate on very high frequencies, the glide path on ultra high frequencies and the compass locators on low and medium frequencies. Twenty-six instrument landing systems are in operation, a new installation having been commissioned during 1955 at Saint John, N.B.

Aeronautical Communications Stations.—To assist in providing communication between aircraft and ground, radio stations are located at strategic points across the country, including the Arctic. These stations, operating for the most part on high frequencies, provide communication to both domestic and international air carriers. The international communications stations form a major contribution on the part of Canada to international aviation. They may be grouped as follows: (1) communication for Meteorological Services; (2) communication for the Air Traffic Control Services; and (3) communication, for the benefit of the airline operating agencies, with their aircraft and between their despatch offices.

Meteorological Communications Stations.—Six stations whose primary function is weather reporting are located at strategic points throughout the country from coast to coast and into the Far North; some are located in remote areas where radio is the only means of communication.

Supplementing the facsimile wire-line services, the transmission of weather maps is extended by radio to points in northern Canada which cannot be served by wire lines.

Subsection 3.—Other Government and Commercial Radio Communication Services

Provincial Government Radio Services.—Provincial authorities use radio services in many Departments. Table 4 shows the number of stations operated by the Provincial Governments.

4.—Radio Communications Stations Operated by Provincial Governments as at Mar. 31, 1955

Province	Stations	Province	Stations
	No.		No.
Newfoundland.....	36	Manitoba.....	226
Nova Scotia.....	13	Saskatchewan.....	427
New Brunswick.....	30	Alberta.....	302
Quebec.....	414	British Columbia.....	817
Ontario.....	1,128	Total.....	3,393

Commercial Radiotelephone Services.—The North-West Telephone Company operates a radiotelephone service between points in British Columbia not hitherto served by telephone communications. Under licences granted by the Department of Transport, the Company has established a number of permanent public commercial radiotelephone stations in that Province. These stations are authorized to provide communication to private commercial radiotelephone stations located at isolated points in the Province. The Company is also licensed to establish limited coast stations at Lulu Island, Powell River, Vancouver, Nanaimo, Victoria, Harrison Lake, Parksville, Alert Bay, Campbell River, Hardwicke Island, Halberg, Sumas Mountain, and Prince Rupert, B.C., to provide a ship-to-shore service. These stations, used in conjunction with the ordinary telephone exchange, provide a duplex-radiotelephone service to isolated points and to certain ships at sea, and also provide a limited amount of service to stations of the land mobile category.

The North-West Telephone Company is also licensed to provide emergency radiotelephone communication at any point in British Columbia and to carry out tests for extending the existing radiotelephone service throughout the Province.

To provide trans-river communication in the lower St. Lawrence area, the following companies operate stations in the Province of Quebec at La Malbaie, Tadoussac, Rivière-du-Loup, Rimouski, Matane, Montmagny, St. Antoine, Ile aux Grues, Cap Chat, Forestville, Trinity Bay, Seven Islands, Baie Comeau, Clarke City, Gaspé Copper Mines, Mont Louis, Chicoutimi, and Tour à Pica: La Compagnie de Téléphone de Charlevoix et Saguenay, La Compagnie de Téléphone de Kamouraska, the Quebec Telephone Corporation, Gulf of St. Lawrence Telephone Company and La Compagnie du Téléphone Saguenay, Que.

The wire line facilities between Saint John, N.B., and Digby, N.S., between Saint John, N.B., and Halifax, N.S., between Red Head, N.B., and Mount Hanley, N.S., between Lutz Mountain (Moncton), N.B., and Egmont, P.E.I., and between Charlottetown, P.E.I., and New Glasgow, N.S., are supplemented by radiotelephone lines.

The stations at Saint John, Red Head, and Lutz Mountain (Moncton) are operated by the New Brunswick Telephone Company. The terminals at Digby, Halifax, New Glasgow and Mount Hanley are operated by the Maritime Telephone and Telegraph Company. The stations at Charlottetown and Egmont are operated by the Island Telephone Company.

The Bell Telephone Company of Canada provides a land mobile terminal radiotelephone service at numerous points in Ontario and operates a microwave link between Toronto and Ottawa, Ont., and Montreal, Que., which carries television programs and is capable of providing many additional telephone circuits. Radio links are also maintained between Pelee Island and Leamington, Ont., and across the St. Lawrence between Sorel and Joliette, Que.

The Canadian National Railway Company operates an extensive radiotelegraph and radiotelephone service in Newfoundland including links between Table Mountain, Nfld., Cape North, N.S., and New Waterford, N.S. This Company is also authorized to provide a limited coast-station service at Port aux Basques, Nfld.

The Canadian National Railway Company and the Canadian Pacific Railway Company are jointly establishing microwave circuits between Toronto and Windsor and between Montreal and Quebec City.

The Avalon Telephone Company operates public commercial stations in Newfoundland to supplement its wire lines and to provide telephonic communication with isolated communities.

The Manitoba Telephone System operates radiotelephone links involving stations at the following points: Riverton, Manigotagan, Hecla Island, Gimli, Norway House, Bissett, Great Falls, The Pas, Snow Lake and Winnipeg, Man. In addition the System operates stations at Gimli, The Pas and Norway House to provide terminal service for ships operating on Lake Winnipeg.

Norwesto Communications Limited operates a public commercial radiotelephone service consisting of stations located at Kenora, Red Lake, Ball Lake, Sioux Narrows, Dryden, Sioux Lookout, Minaki and Redditt, which are used in conjunction with the ordinary telephone exchanges to provide telephonic communication to privately owned stations at isolated points throughout the northwestern part of the Province of Ontario.

The Red Lake Telephone Company operates a public commercial radiotelephone station at Madsen, Ont., to provide a connection between the local wire telephone system and the Norwesto Communications Limited network.

The Okanagan Telephone Company operates a public radiotelephone service between Revelstoke and Arrowhead, B.C., and a public commercial terminal station at Kelowna to provide telephonic communication to privately owned stations at isolated points in the Kelowna area.

Miscellaneous Radio Communication Services.—Radiotelegraphy and radiotelephony are used throughout Canada to provide means of maintaining contact with isolated points beyond the reach of the regular telegraph and telephone facilities.

Municipal government departments have steadily increased their use of radio to facilitate operations. This increase is noted in all categories of municipal services using radio as a medium of communication with vehicles, i.e., police, fire, engineering, hydro, etc. In addition the trend toward expansion in the employment of radio for urban land mobile communication has continued and has shown no signs of abating. Such services as taxi, heavy construction, ready-mix concrete, oil pipeline construction and operation, veterinarian and rural medical have participated extensively in this increase. Public mobile radio relay message services (telephone answering service) have also been licensed to operate in a number of cities including Montreal, Toronto and Edmonton.

Public utilities, power companies, provincial power commissions, oil exploration and mineral development organizations have considerably expanded their use of radio in both urban mobile and point-to-point radio fields.

Section 3.—Broadcasting in Canada*

Broadcasting in Canada as it has developed over a period of more than thirty-five years is a combination of public and private enterprise. Under the Canadian Broadcasting Act (R.S.C. 1952, c. 32) authority for broadcasting service is vested in a Board of eleven Governors, appointed by the Governor General in Council and chosen to give representation to the principal geographical divisions of Canada. The Board is directly responsible to Parliament for carrying on a national broadcasting service in Canada and for the policies of the Canadian Broadcasting Corporation. It also administers and supervises regulations pertaining to broadcasting which are observed by both the CBC and privately owned stations.

As of Nov. 1, 1955 there were 22 CBC radio stations and eight CBC television stations; 191 privately owned radio stations and 22 privately owned television stations. All the privately owned television stations and many of the privately owned radio stations operate in partnership with the CBC in helping to distribute national radio and television services over five networks: in radio, the Trans-Canada, Dominion and French networks, and in television, the English and French networks. The networks are operated by the CBC.

The privately owned stations are subject to licensing control by the Department of Transport and to CBC regulations authorized by Parliament. They serve, primarily, the locality in which they are situated with the general purpose of providing community service. Many such stations are located in relatively small urban centres and serve, as well, the larger population located in the surrounding rural areas. Others serve medium-sized and metropolitan cities together with the audiences located in the surrounding towns and rural areas, providing alternative programs to those of the CBC. In sparsely populated areas where privately owned stations would not be economical the CBC provides service through unattended, low-power relay transmitters. Many of the privately owned stations form an integral part of the national networks as outlets for national service programming.

The Chairman of the Board of Governors is required to devote the whole of his time to the performance of his duties under the Act. The Board, whose members are not paid and must take an oath of office disclaiming any personal interests in broadcasting, reviews broadcasting activities in Canada generally in the interests of the country as a whole. Policy is determined and supervised by the Board but day-to-day operations and executive direction of the CBC are conducted by the General Manager. Although the CBC is responsible for the regulations controlling the establishment of networks and the proportion of time that may be devoted to advertising in broadcast programs, it neither exercises, nor authorizes any private station to exercise on its behalf, censorship of any broadcast program. The responsibility of observing regulations rests with individual station management.

The general principles of this system, as established by Parliament, have been approved by 14 Parliamentary Committees and two Royal Commissions.

Radio Broadcasting Facilities.—As stated above, the CBC operates three networks: the Trans-Canada and Dominion networks serving English language audiences from the Atlantic to the Pacific, and the French language network extending from Moncton, N.B., to Edmonton, Alta. As at Nov. 1, 1955 the Trans-Canada network was made up of 26 basic stations—13 CBC owned and 13 privately owned. There were 18 supplementary stations, four of which were CBC owned Newfoundland stations. The Dominion network consisted of 31 basic stations of which 30 were privately owned. Nineteen supplementary privately owned stations also received Dominion network service. The French network had five basic stations, four of which were CBC owned and one privately owned, and 20 privately owned affiliated supplementary stations.

Table 5 presents the broadcasting stations of the Canadian broadcasting radio network.

* Prepared by H. D. Hodgson, Press and Publicity Division, Canadian Broadcasting Corporation, Ottawa. The history of the Canadian Broadcasting Corporation is given in the 1947 Year Book, pp. 737-740.

5.—Broadcasting Stations of CBC Radio Networks as at Nov. 1, 1955

NOTE.—The stations marked with an asterisk (*) are CBC owned.

Station Location	Fre-	Power	Station Location	Fre-	Power
	quency			quency	
	kc.	watts		kc.	watts
Trans-Canada Basic Network—			Dominion Basic Network—concl.		
*CBI Sydney.....	1,570	1,000	CFPA Port Arthur.....	1,230	250
*CBH Halifax.....	1,330	100	CJRL Kenora.....	1,220	1,000
*CBA Sackville.....	1,070	50,000	CKRC Winnipeg.....	630	5,000
CHSJ Saint John.....	1,150	5,000	CKX Brandon.....	1,150	1,000
CFNB Fredericton.....	550	5,000	CJGX Yorkton.....	940	1,000
*CBM Montreal.....	940	50,000	CKBI Prince Albert.....	900	5,000
*CBO Ottawa.....	910	5,000	CFQC Saskatoon.....	600	5,000
CKWS Kingston.....	960	5,000	CHAB Moose Jaw.....	800	5,000
*CBL Toronto.....	740	50,000	CKRM Regina.....	980	5,000
CFCH North Bay.....	600	1,000	CFRN Edmonton.....	1,260	5,000
CJKL Kirkland Lake.....	560	5,000	CFCN Calgary.....	1,060	10,000
CKGB Timmins.....	680	5,000	CHWK Chilliwaack.....	1,270	1,000
CKSO Sudbury.....	790	5,000	CJOR Vancouver.....	600	5,000
*CBE Windsor.....	1,550	10,000	CJVI Victoria.....	900	1,000
CJIC Sault Ste. Marie.....	1,490	250			
CKPR Fort William.....	580	1,000			
*CBW Winnipeg.....	990	50,000			
*CBK Watrous.....	540	50,000	Dominion Supplementary—		
*CBX Edmonton.....	1,010	50,000	CHML Hamilton.....	900	5,000
*CBXA Edmonton.....	740	250	CKTB St. Catharines.....	620	1,000
CJCC Lethbridge.....	1,220	5,000	CPOR Orillia.....	1,570	1
CFJC Kamloops.....	910	1,000	CHNO Sudbury.....	1,440	1,000
CKOV Kelowna.....	630	1,000	CHAT Medicine Hat.....	1,270	1,000
*CJT Trail.....	610	1,000	CJIB Vernon.....	940	1,000
*CBU Vancouver.....	690	10,000	CFOB Fort Frances.....	800	2
*CFPR Prince Rupert.....	1,240	250	CKCV Quebec.....	1,280	1,000
			CKSF Cornwall.....	1,230	250
			CJBC Belleville.....	1,230	250
			CKCR Kitchener.....	1,490	250
			CJCS Stratford.....	1,240	250
			CKPC Brantford.....	1,380	1,000
			CKNX Wingham.....	920	1,000
			CFOS Owen Sound.....	1,470	1,000
			CKLW Windsor.....	800	50,000
			CKRD Red Deer.....	850	1,000
			CKLC Kingston.....	1,380	1,000
			CKOK Penticton.....	800	1,000
			French Basic Network—		
			*CBJ Chicoutimi.....	1,580	10,000
			*CBV Quebec.....	980	1,000
			*CBF Montreal.....	690	50,000
			*CBAF Moncton.....	1,300	5,000
			CHNC New Carlisle.....	610	5,000
			French Supplementary—		
			CJEM Edmundston.....	1,380	1,000
			CJBR Rimouski.....	900	5,000
			CHLT Sherbrooke.....	900	1,000
			CHGB Ste. Anne-de-la-Pocatière.....	1,350	5
			CKCH Hull.....	970	5,000
			CJFP Rivière-du-Loup.....	1,400	250
			CKVD Val d'Or.....	1,230	250
			CHAD Amos.....	1,340	250
			CKRN Rouyn.....	1,400	250
			CKLS La Sarre.....	1,240	250
			CKLD Thetford Mines.....	1,230	250
			CFCL Timmins.....	580	1,000
			CKSB St. Boniface.....	1,250	1,000
			CHFA Edmonton.....	680	5,000
			CFNS Saskatoon.....	1,170	1,000
			CFRG Gravelbourg.....	1,230	250
			CHNO Sudbury.....	1,440	1,000
			CKBL Matane.....	1,250	1,000
			CKVM Ville Marie.....	710	1,000
			CKRB Ville St. Georges.....	1,400	250
Dominion Basic Network—					
CJCB Sydney.....	1,270	1			
CHNS Halifax.....	960	5,000			
CJFX Antigonish.....	580	5,000			
CJLS Yarmouth.....	1,340	250			
CFCY Charlottetown.....	630	5,000			
CKCW Moncton.....	1,220	10,000			
CFBC Saint John.....	930	5,000			
CKNB Campbellton.....	950	1,000			
CKTS Sherbrooke.....	1,240	250			
CFCF Montreal.....	600	5,000			
CKOY Ottawa.....	1,310	1			
CHOV Pembroke.....	1,350	1,000			
CFJR Brockville.....	1,450	250			
CHEX Peterborough.....	1,430	1,000			
*CJBC Toronto.....	860	50,000			
CFPL London.....	980	5,000			
CFCO Chatham.....	630	1,000			

¹ 5,000 watts during daytime; 1,000 watts at night.
² 1,000 watts during daytime; 500 watts at night.

² 1,000 watts during daytime; 250 watts at night.

Television Broadcasting Facilities.—As at Nov. 1, 1955 there were 26 television broadcasting stations in operation on the English network (six of which were CBC owned) and four under construction. On the French network, four stations were in operation (two of which were CBC owned) and two were under construction. These stations were located and powered as follows:—

6.—Broadcasting Stations of CBC Television Networks as at Nov. 1, 1955

NOTE.—The stations marked with an asterisk (*) are CBC owned.

Station Location	Chan- nel	Power V	Power A	Station Location	Chan- nel	Power V	Power A
		kw.	kw.			kw.	kw.
English Network—				English Network—concluded			
CJON-TV St. John's.....	2	1.06	0.634	CKCK-TV Regina.....	2	18.9	10.0
CJCB-TV Sydney.....	4	100	60	CFRN-TV Edmonton.....	3	27.4	13.7
*CBHT Halifax.....	3	56.5	33.8	CHCT-TV Calgary.....	2	100	50
CHSI-TV Saint John.....	4	27.8	13.9	*CBUT Vancouver.....	2	102	55.2
CKCW-TV Moncton.....	2	5	3	CKNX-TV Wingham.....	8	20	12
*CBMT Montreal.....	6	43.8	26.2				
*CBOT Ottawa.....	4	50.1	26.7	Under Construction—			
CHEX-TV Peterborough.....	12	102	61.2	CFGY-TV Charlottetown.....	13	21	12.5
CKWS-TV Kingston.....	11	101	60.6	CKGN-TV North Bay.....	10	28.5	14.25
*CBLT Toronto.....	9	25.65	12.72	CFCL-TV Timmins.....	6	18.5	9.25
CKVR-TV Barrie.....	3	14	7	CJLH-TV Lethbridge.....	7	102.8	57.5
CHCH-TV Hamilton.....	11	16.9	10.05				
CKCO-TV Kitchener.....	13	16.0	8.45	French Network—			
CEPL-TV London.....	10	117	59.6	CJBR-TV Rimouski.....	3	34.0	19.4
CKLW-TV Windsor.....	9	178	107	CFCM-TV Quebec.....	4	1.27	635
CKSO-TV Sudbury.....	5	1.74	0.87	*CBFT Montreal.....	2	15.7	8.28
CJIC-TV Sault Ste. Marie.....	2	5.16	2.53	*CBOFT Ottawa.....	9	31	17
CFPA-TV Port Arthur.....	2	5.10	2.55				
*CBWT Winnipeg.....	4	56.2	33.7	Under Construction—			
CKX-TV Brandon.....	5	19.3	9.65	CKRS-TV Jonquières.....	12	20	10
CFQC-TV Saskatoon.....	8	100	60	CHLT-TV Sherbrooke.....	7	17.3	8.8

It was estimated that at the end of March 1955 more than 70 p.c. of all Canadians were within reach of the national television system. Although the linking of all Canadian television stations from coast to coast for instantaneous telecasting of programs may take several years because of the distances and difficult terrain involved, microwave facilities had reached Windsor, Ont., on the west and Quebec City on the east by July 1955.

When television broadcasting began in September 1952, 146,000 television sets were in use in Canada. One year later the number had tripled and by July 1955 more than 1,400,000 receivers were in use in Canadian homes.

Canadian Broadcasting Corporation Service.—The CBC is organized in the following divisions: Program, International Service, Engineering, Commercial, Press and Information, Broadcast Regulations, Station Relations, Personnel and Administration, and Treasury. Head Office is at Ottawa, but in order to present programs at suitable times and to give expression to varying interests across Canada, the CBC maintains regional offices at St. John's, Nfld., Halifax, N.S., Montreal, Que., Toronto, Ont., Winnipeg, Man., and Vancouver, B.C. Production facilities are maintained at St. John's, Nfld., Sydney and Halifax, N.S., Moncton, N.B., Chicoutimi, Quebec and Montreal, Que., Ottawa, Toronto and Windsor, Ont., Winnipeg, Man., Regina, Sask., Edmonton, Alta., and Vancouver and Prince Rupert, B.C.

Domestic Radio Program Service.—During the year ended Mar. 31, 1955, 69,222 programs representing 21,905 hours of broadcasting were presented over the CBC Trans-Canada, Dominion and French networks. Of the total broadcasting hours 86.0 p.c. were devoted to non-commercial and public service programs and the remainder to commercial presentations. Of the total broadcasting hours in 1954-55, 66.7 p.c. was scheduled on the Trans-Canada network, the Dominion network released 7.5 p.c. and the remainder was released on the French network.

The CBC originated and produced 90.2 p.c. of its network broadcasts. Of the remainder, 1.3 p.c. came from private stations and 8.5 p.c. were exchange programs from the United States and the British Broadcasting Corporation. Various categories of light music made up the greatest number of broadcast hours, followed in order by drama and feature, news, classical, music, talks, variety, agriculture programs, women's programs, semi-classical music, educational broadcasts, children's programs, religious periods, dance music, sports programs, old-time music, symphony music, band music, sacred music, prose and poetry, and opera. Table 7 shows the total time devoted to sustaining and commercial programs in radio and analyses those made up of music as compared with the spoken word. The figures are based on the number of programs presented on the three CBC radio networks as live programs, recorded programs, or programs that were recorded for later presentation. They do not include any program that was repeated to any section of the networks. Actually there were 11,171 programs representing 4,394 hours repeated at various times and over various sections of the networks.

7.—Classification of CBC Radio Programs, Year Ended Mar. 31, 1955

Class of Program	Programs	Hours	Distribution of Hours
	No.	No.	p.c.
Musical	26,806	11,211:20	51.2
Opera.....	240	342:00	1.6
Symphony.....	505	479:05	2.2
Sacred music.....	414	143:30	0.7
Classical.....	2,899	1,763:05	8.0
Semi-classical.....	2,230	1,080:35	4.8
Variety.....	1,680	616:55	2.8
Light.....	15,194	5,346:15	24.4
Dance.....	1,943	955:10	4.4
Old-time.....	1,011	309:35	1.4
Band.....	710	194:10	0.9
Oral	42,416	10,694:25	48.8
Drama and feature.....	7,184	2,251:25	10.3
Prose and poetry.....	182	87:00	0.4
Talks—informative.....	4,223	1,310:00	6.0
Educational.....	1,194	447:55	2.0
News commentaries.....	321	46:30	0.2
News events.....	457	131:55	0.6
News résumés.....	17,559	2,786:05	12.7
Agriculture.....	3,048	1,173:55	5.4
Stock and market quotations.....	43	10:45	0.1
Sports events.....	204	254:35	1.1
Sports résumés.....	1,655	343:45	1.6
Women's.....	2,400	665:55	3.0
Children's.....	1,616	514:50	2.4
Religious.....	2,330	669:50	3.0
Totals	69,222	21,905:45	100.0

Music and Drama.—Music and drama are two of the chief items in the CBC schedules. In the year ended Mar. 31, 1955 music made up more than one-half of the entire network schedule, and those in the "drama and feature" category comprised the largest percentage of time among spoken-word programs. High quality programs of both types are heard frequently at good listening hours. Apart from regular broadcasts by Canadian symphony orchestras much fine music is presented on *CBC Wednesday Night*—an evening of serious programming on the Trans-Canada network—and once a week by the CBC Symphony Orchestra. Chamber music and choral music originating at many Canadian points as well as recitals by Canadian artists, many of international reputation, are important features of the music schedules. Productions by the CBC Opera Company and by the CBC Light Opera Company are heard throughout the season. During the 1954-55 season the CBC Opera Company presented several full scale operatic productions for television.

During the year ended Mar. 31, 1955 the CBC Drama Department was responsible for the production of 307 radio plays, including 254 originals. More than 90 p.c. of the scripts for these plays were written by Canadians. On television CBC presented 33 one hour dramas, of which 11 were Canadian originals and 11 others adaptations by Canadians. Of 58 half hour dramas, 24 were Canadian originals and four were adaptations by Canadians.

On radio the Sunday Night *Stage* series presented 36 plays, 16 of which were originals and all of which were written by Canadians. *Vancouver Theatre* broadcast 48 half hour plays on Friday nights. *Prairie Playhouse* continued from Winnipeg Thursdays with 46 half hour plays, and CBC Halifax presented 30 dramas on the Maritime network Tuesdays. On the French network, under the title *Histoires Extraordinaires*, Jean-Louis Roux adapted about 30 stories and novels by writers of different countries. The two principal television drama series continued to be the one hour plays Tuesdays on the English network and the 90 minute plays Sunday evenings on the French network. Both series are produced with Canadian talent in the CBC's television studios at Toronto and Montreal.

Television.—Regular CBC television broadcasting was begun from Toronto (CBLT) and Montreal (CBFT) in September 1952. Five CBC television stations were in operation for the whole 1954-55 fiscal year. CBHT Halifax began operating in December and presented 716 hours up to the end of March; CBFT Montreal, the CBC's French outlet in that city, presented a total of 1,883 hours; CBMT Montreal, the English outlet, presented 2,681 hours; CBOT Ottawa, with programs both in English and in French, 3,124 hours; CBLT Toronto 3,175 hours; CBWT Winnipeg, which started operations in May, 2,153 hours; and CBUT Vancouver 2,725 hours.

In addition to producing local live programs CBC stations exchanged programs among themselves and also carried programs produced by American networks and the British Broadcasting Company. During 1954-55 CBLT Toronto carried 605 hours of American and BBC programs and 314 hours from CBMT Montreal, CBFT Montreal, CBUT Vancouver, CBOT Ottawa, CBWT Winnipeg, and from the United Nations at New York. CBHT Halifax carried 130 hours of American and BBC programs and 241 from other Canadian stations. CBFT Montreal carried 17 hours of exchange material. CBMT Montreal had 549 hours imported and 1,345 from other Canadian points; CBOT Ottawa 514 imported and 2,221 domestic; CBWT Winnipeg 345 imported and 553 domestic, and CBUT Vancouver 426 imported and 615 from other Canadian stations.

CBC International Service (Shortwave).—The International Service, inaugurated on Feb. 25, 1945, is operated by the CBC on behalf of the Government of Canada. Its principal aims are to tell the people of other countries about life in Canada and to help unify the western world in the defence of freedom. The International Service has been growing over the years to meet the requirements of Canada's expanding interest and influence abroad. The two 50,000 watt transmitters at Sackville, N.B., are linked by approximately 600 miles of land lines to the studios and the program headquarters of the service in the Radio Canada Building at Montreal. Programs are broadcast in 15 languages—English, French, Dutch, German, Italian, Danish, Swedish, Norwegian, Spanish, Portuguese, Czech, Slovak, Russian, Ukrainian and Polish. In addition regular programs are prepared on tapes and discs for relay over the radio broadcasting facilities of Austria and Greece. Special shortwave broadcasts service Canada's Armed Forces abroad and regular programs are also broadcast to Australasia and the Northwest Territories. A new American Service is also heard in Australia, New Zealand and the Islands of the Pacific.

Over 30,000 letters are received annually from listeners in all parts of the world, attesting to the strength of the International Service signal and to a wide interest in Canada and Canadian radio programs. These letters are answered by the Language Sections and specific requests for information are referred to the departments of government concerned. Technical reception reports are also verified. At regular intervals the International Service mails a program schedule to more than 150,000 listeners in all parts of the world.

These are published in the form of illustrated booklets and contain program notes, times, frequencies and wavelengths. The program schedules—mailed free on request—are printed in 15 languages and each issue deals with some specific aspect of Canadian life.

In addition to broadcasting shortwave programs from Canada for 95 hours weekly, the International Service has developed a liaison with broadcasting organizations in many other countries. An ever increasing number of programs are relayed over the national networks of many lands, thus assuring an even wider audience for the International Service programs.

Transcriptions are produced in the studios of the International Service at Montreal and include a variety of material recorded in all parts of Canada. Distribution is world-wide and is carried out in close co-operation with Canada's Missions abroad. Music transcriptions featuring nearly 150 fifteen minute and thirty minute programs cover a wide range of material from classical to popular music and include Canadian folk songs and works of contemporary Canadian musicians. These programs are currently being used in about 85 countries. Spoken-word transcriptions recording all aspects of Canadian life are available in English, French and Spanish. Catalogues listing the programs are sent to radio organizations in the countries concerned; over 100 radio networks and stations are currently receiving International Service transcriptions.

CBC Finances.—The CBC's financial statement for the year ended Mar. 31, 1955 disclosed a net operating surplus of \$4,267,668 after providing for depreciation and obsolescence. Sound broadcasting and integrated services sustained an operating loss of \$211,753 and television service realized an operating surplus of \$4,479,421.

A decrease of \$899,987 as compared with the previous year in income earned by the sound broadcasting and integrated services was accentuated by an increase of \$595,661 in operating expenses. The increase in operating expenses of the television service was \$804,547 greater than the increase in income.

The sum of \$5,384,027 was expended by the Corporation during 1954-55 in extending and improving broadcasting facilities. Capital expenditures were \$4,390,746 for television and \$993,281 for the sound broadcasting and integrated services. During the year a complete study of depreciation rates was made in conjunction with the Engineering Division. Scientific rates have been established varying from 5 p.c. to 20 p.c. depending upon the type of assets. The capital assets were aged and the new rates applied to ascertain the adequacy of the accumulated reserve for depreciation. It was established that the reserve was \$241,857 in excess of requirements and as a result the amount was credited to surplus. Assets amounting to \$43,712 were written off as obsolete or no longer serviceable.

Since its inception the CBC has continued to extend and improve its broadcasting facilities through operating surpluses, when available, and through loans from the Government of Canada. A fifth loan for the television service amounting to \$3,000,000, authorized by Act of Parliament, is to be amortized by 30 semi-annual instalments commencing Jan. 1, 1961.

The Corporation carries on its books as a separate item the total cost of the Crown's property together with a like sum as a liability to the Government of Canada. Also costs of operating the International Service which are borne by the Federal Government are not considered as chargeable to the CBC because the grants from the Government of Canada and revenue from licence fees are used only to serve listeners within Canada.

In the year ended Mar. 31, 1955 artists, musicians, singers, actors and script writers received nearly \$8,000,000 from participation in CBC programs. This amount was divided almost equally between radio and television. Performers' fees for the combined services totalled more than \$6,000,000, while a total of more than \$1,600,000 was paid for scripts, performing rights and music and musical arrangements. Performers' fees included more than \$85,000 paid to Canadian symphony orchestras for broadcast rights.

Operating expenditures in 1954-55 which exceeded those of the previous year by \$122,306, are shown in Table 8. The value of Crown assets in the custody of the Corporation increased \$50,789 during the year after write-offs amounting to \$2,637.

8.—Income and Expenditure of the CBC, Year Ended Mar. 31, 1955

Item	Sound Broadcasting and Integrated Services		Television Service		Total	
	\$	p.c.	\$	p.c.	\$	p.c.
Net Income	15,561,844	100.00	21,275,805	100.00	36,837,649	100.00
Statutory grant under Sect. 14-3 of the Act....	6,250,000	40.16	—	—	6,250,000	16.97
Statutory grant under Sect. 14-4 of the Act....	4,509,982	28.98	16,959,965	79.72	21,469,947	58.29
Commercial broadcasting.....	2,105,864	13.53	4,157,325	19.54	6,263,189	17.00
Broadcasting licence fees.....	284,500	1.83	9,000	0.04	293,500	0.79
Miscellaneous.....	203,242	1.31	149,515	0.70	352,757	0.96
International service.....	2,208,256	14.19	—	—	2,208,256	5.99
Expenditure	15,773,597	100.00	16,796,384	100.00	32,569,981	100.00
Programs.....	8,822,016	55.93	9,016,849	53.68	17,838,865	54.77
Engineering.....	3,099,132	19.65	3,152,454	18.77	6,251,586	19.19
Station networks.....	1,659,666	10.52	672,490	4.01	2,332,156	7.16
Administration.....	1,096,517	6.95	36,736	0.22	1,133,253	3.48
Press and information.....	483,258	3.06	114,340	0.68	597,598	1.84
Commercial.....	293,397	1.86	109,277	0.65	402,674	1.24
Interest on loans.....	94,063	0.60	453,392	2.70	547,455	1.68
Depreciation.....	484,049	3.07	880,483	5.24	1,364,532	4.19
Integrated services, shared.....	-2,360,363	-14.96	2,360,363	14.05	—	—
International service.....	2,101,862	13.32	—	—	2,101,862	6.45
Operating Surplus	-211,753	...	4,479,421	...	4,267,668	...

Privately Owned Stations.—As stated previously, privately owned broadcasting stations are subject to the Radio Act, the Canadian Broadcasting Act and Regulations made thereunder, and to the provisions of the Radio Regulations annexed to the International Telecommunication Convention and Regional Agreements for the time being in effect in Canada. Since Mar. 31, 1923 private commercial broadcasting station licences have been required by Government regulation and both sound and television broadcasting stations are now authorized by this class of licence.

Any application for a licence to establish a new private station or for an increase in power, change of channel, or change of location of any existing private station must be referred by the Minister of Transport to the Canadian Broadcasting Corporation; the Corporation after giving public notice thereof in the *Canada Gazette* will make such recommendations to the Minister of Transport as it may deem fit. The approval of the Governor in Council must be obtained before any licence for a new private station is issued. Private commercial broadcasting station licences are conditional upon the ownership or control of the stations, and the shares of capital stock of licensed companies in certain instances, may not be transferred without the permission of the Minister of Transport having been first obtained upon the recommendation of the Canadian Broadcasting Corporation. Proof of performance statements showing public service, community service and light activity are filed annually with the Canadian Broadcasting Corporation. Organizational and financial statements are filed annually, on a confidential basis, with the Department of Transport.

The first sound broadcasting in Canada took place when a privately owned communications company in Montreal was authorized to transmit programs on an experimental basis during the latter part of 1918 and in the winter evenings of 1919 over its Station XWA. Under the first licencing regulations in the year ended Mar. 31, 1923, 34 licences were issued. By November 1955 the number had increased to 191, of which 156 were AM standard band stations, 27 were frequency modulated stations and eight were shortwave stations. Of the 156 standard band stations, two were operating with a power of 50,000 watts, five with 10,000 watts, 47 with 5,000 watts, 57 with 1,000 watts, 43 with 250 watts and two with 100 watts.

A privately owned broadcasting station is required to pay to the Receiver General of Canada an annual licence fee based on the gross revenue for licence fee computation for the fiscal year of the station. Because the fiscal years of the privately owned stations end at different dates it is difficult to estimate the gross revenue of all stations for any one year; however the estimated gross revenue for the calendar year 1954 was approximately \$29,500,000. This revenue is obtained from commercial advertising.

The first privately owned television broadcasting station in Canada was authorized to commence scheduled broadcasting on Oct. 20, 1953. It was located at Sudbury, Ont. By Nov. 1, 1955 there were in operation 22 privately owned stations (see Table 6).

International Agreements.—In 1937 a conference was held at Havana, Cuba, for the purpose of reviewing the entire broadcasting situation in the North American region for the purpose of developing a workable plan which would permit the growth of the broadcasting industry. The product resulting from the deliberations of that conference was the treaty known as the North American Regional Broadcasting Agreement which came into effect in 1941 and was extended by an instrument known as the *modus vivendi* or interim agreement signed at Washington in 1946. In 1949 and 1950 conferences were held at Montreal and Washington, and a new North American Regional Broadcasting Agreement was drafted in December 1950 which has been implemented as an administrative arrangement.

The Canadian-United States Television Agreement provides for the assignment and utilization of 82 television channels between 54 and 890 mc/s along the border between Canada and the United States of America, within an area of 250 miles on either side of the boundary. This Agreement provides that all station assignments within its scope shall be made in accordance with the Agreement and shall have an effective radiated signal in any vertical or azimuthal plane not in excess of 100 kw. for Channels 2 to 6, 325 kw. for Channels 7 to 13 and 1,000 kw. for Channels 14 to 83.

PART IV.—THE POST OFFICE

The Canada Post Office Department was created at the time of Confederation in 1867 by the Canada Post Office Act to superintend and manage the postal service of Canada under the direction of a Postmaster General. For almost a century before Confederation, postal services in the Canadian provinces had been controlled by the British Postmaster General and administered by his deputies. Under the French régime a courier service had been organized as early as 1703 between Quebec, Three Rivers and Montreal. In 1734 a post road was constructed over the same route and post houses, complete with post horses and vehicles, were established for the use of travellers. In 1851 the control of their post offices was assumed by the different provinces of British North America and at Confederation these systems merged to form the Canada Post Office.

Functions.—The basic task of the Canadian Postal Service is the handling and transmission of postal matter—letters, parcels, newspapers, magazines, etc.—and in discharging this duty it maintains a wide variety of services—post offices and air, railway, land and water transportation facilities.

This basic task involves many associated functions which include the sale of postage stamps and other articles of postage; the furnishing of information to the public respecting postage rates and other postal matters; the registration of letters and other articles of mail; the insuring of parcels; the acceptance of COD articles for mail and dispatch; the sorting, making up and dispatching of ordinary and registered mail to other offices; the sorting and delivery of incoming mail of all kinds; and the transaction of money order and Post Office Savings Bank business.

All functions of the Postal Service, as far as the public is concerned, are centred in the post offices, of which 12,138 were in operation at Mar. 31, 1955 as against 12,202 at the same date in 1954. Postage paid in 1954-55 by means of postage stamps amounted to \$74,583,720 (\$64,546,067 in 1954). Post office money orders are issued for any amount

up to and including \$100 at more than 7,000 post offices, for payment in almost every country in the world as well as in Canada. Orders payable in Canada only, for amounts under \$16, are issued at more than 4,000 additional post offices. Post Office Savings Banks are in operation in all parts of the country and on Mar. 31, 1955 had total deposits of \$36,780,666.

Post offices are established for the transaction of all kinds of postal business wherever the population warrants. The post office is a complete entity in rural districts and smaller urban centres. In the larger towns and cities there is a main post office and, if size of population calls for extra services, postal stations and sub-post offices are operated. Letter carrier delivery is given in 132 cities and towns by over 5,800 uniformed letter carriers. Postal stations are maintained on the same lines as the main post offices and perform full postal business, including general delivery service and a post office lock-box delivery as well as letter carrier delivery service accommodating the surrounding district.

Because of its widespread facilities, it has been found expedient for the Post Office to assist other Government Departments in the performance of certain tasks that include the sale of unemployment insurance stamps, the collection of Government annuity payments, the distribution of income tax forms, Civil Service employment application forms and the display of Government posters.

Organization.—The Canada Post Office includes an Operating Service and Headquarters at Ottawa. The Operating Service is organized into five regions each under a Regional Director, who is the field representative of the Deputy Postmaster General. There are five Headquarters Branches: Administration, Operations, Transportation, Financial, and Personnel, each under a Director. Operating and secretarial features in the operating field affecting the post offices and local mail services in urban centres are taken care of by the local Postmaster. District office functions relating to services in the district and all inspections and investigations are under District Directors of Postal Services in strategic centres across the country.

Postal service is provided in Canada from Newfoundland to the west coast of Vancouver Island and from Pelee Island, Ont. (the most southerly inhabited point of Canada) to settlements and missions far within the Arctic. Canada's airmail system provides several transcontinental flights daily and constitutes a great air artery from St. John's, Nfld., to Victoria, B.C., intersected by branch lines and connecting lines radiating to every quarter and linking up with the United States airmail system. Since July 1, 1948 all first class domestic mail up to and including one ounce in weight has been carried by air between one Canadian point and another, whenever delivery can thus be expedited. On Apr. 1, 1954 this service was extended to first class items up to and including eight ounces in weight. Air stage service provides the sole means of communication with the outside for many areas in the hinterland. There were approximately 30,000 miles of airmail and air stage routes in Canada in 1955 as compared with 29,640 miles in 1954.

The principal means of mail transportation is the railway mail service which operates along about 40,000 miles of track and, in 1954, covered over 47,000,000 track miles. The railway mail service employed a staff of 1,296 mail clerks to prepare the mails for prompt delivery and dispatch while *en route* in the railway mail cars. Like its airmail service Canada's railway mail service is one of the most extensive in the world.

The rural mail delivery organization provides direct postal facilities to residents in the rural sections of the country; approximately 5,322 rural mail routes were in operation in 1955, involving over 125,000 route miles and serving 438,252 rural mail boxes. Rural mail routes are generally circular in pattern and average about 24 miles in length. Considerable progress has been made towards the development of mail service by means of group boxes—a service intended for the more densely populated rural areas and for suburban residents not within the area of letter carrier delivery service. About 4,000 side services were in operation in 1955 to transport mail between post offices, railway stations, steamer wharves and airports, and 2,770 stage services operated to convey mail to and from post offices not located on railway lines. Transportation of mail by motor

vehicle on highways is being developed and over 150 such services are in operation. Many of these services replaced or reduced conveyance by rail. A local exchange of mails between offices on the route is effected by way-mail wallet. In 1955 there were approximately 767 city mail services transporting mail to and from post offices, postal stations and sub-post offices, collecting mail from street letter-boxes and delivering parcel post. In all, about 13,000 land mail service couriers are employed and travel in the neighbourhood of 50,000,000 miles annually. Land mail services are performed under a contract system, the contracts being awarded to the person submitting the lowest tender and competent to provide all the requisite equipment.

The increase in postal business is one of the impressive features of Canada's economic development during the past ten years. Gross revenue for the year ended Mar. 31, 1955 reached an alltime high.

Section 1.—Post Office Statistics

Tables 1, 2 and 3 give the numbers of post offices in operation together with revenue and expenditure for the past few years.

1.—Post Offices in Operation by Province as at Mar. 31, 1952-55

Province or Territory	1952	1953	1954	1955
	No.	No.	No.	No.
Newfoundland.....	592	606	613	626
Prince Edward Island.....	105	105	106	105
Nova Scotia.....	1,245	1,215	1,179	1,148
New Brunswick.....	837	834	817	789
Quebec.....	2,530	2,516	2,507	2,487
Ontario.....	2,598	2,613	2,630	2,654
Manitoba.....	823	831	824	822
Saskatchewan.....	1,397	1,384	1,384	1,347
Alberta.....	1,179	1,156	1,152	1,156
British Columbia.....	955	955	963	955
Yukon Territory.....	13	13	15	16
Northwest Territories.....	31	31	32	33
Canada.....	12,305	12,259	12,202	12,138

2.—Revenue and Expenditure of the Post Office Department, Years Ended Mar. 31, 1946-55

NOTE.—Figures from 1868 will be found in the corresponding table of previous Year Books beginning with the 1911 edition. Figures for Newfoundland are included from 1950.

Year	Gross Revenue	Net Revenue ¹	Expenditure ²	Surplus (+) or Deficit (—)
	\$	\$	\$	\$
1946.....	83,763,007	68,635,559	57,729,646	+10,905,913
1947.....	86,400,951	72,986,624	64,213,050	+8,773,974
1948.....	91,613,618	77,770,967	67,943,476	+9,827,491
1949.....	95,957,469	80,618,401	77,642,621	+2,975,780
1950.....	101,277,435	84,528,655	82,639,741	+1,888,914
1951.....	105,545,456	90,454,678	91,781,466	—1,326,788
1952.....	122,266,675	104,622,208	97,973,263	+6,648,945
1953.....	129,388,365	112,024,245	105,553,191	+6,471,054
1954.....	129,889,325	111,107,484	113,581,752	—2,474,268
1955.....	151,717,273	131,315,049	123,611,055	+7,703,994

¹ Gross revenue less commissions and allowances to postmasters and other smaller items. rental of service staff and staff post offices.

² Excludes

3.—Gross Postal Revenue of Offices collecting upwards of \$10,000 for the Years Ended Mar. 31, 1954 and 1955

NOTE.—Money order commissions are not included in gross postal revenue. Provincial totals of postal revenue include post offices not separately listed.

Province and Post Office	1954	1955	Province and Post Office	1954	1955
	\$	\$		\$	\$
Newfoundland	1,309,380	1,433,988	New Brunswick—concluded		
Botwood.....	11,175	11,884	Chipman.....	1	11,025
Buchans.....	10,055	10,604	Dalhousie.....	22,779	27,882
Channel.....	10,129	11,509	Dorchester.....	1	10,601
Corner Brook.....	76,769	93,297	Edmundston.....	51,319	60,787
Deer Lake.....	1	10,673	Fredericton.....	284,499	347,198
Gander.....	38,154	38,673	Grand Falls.....	21,942	24,447
Goose Airport.....	24,230	31,521	Hartland.....	10,787	12,981
Goose Airport Sub-Office A.	20,476	11,412	Harvey Station.....	12,019	13,085
Grand Falls.....	24,296	28,336	Minto.....	1	11,002
Harmon Field.....	18,098	18,928	Moncton.....	1,182,501	1,279,827
Lewisporte.....	1	11,344	Newcastle.....	33,725	41,622
St. John's.....	608,520	672,575	Perth.....	1	10,199
Stephenville.....	1	11,309	Plaster Rock.....	10,685	11,896
Wabana.....	16,698	15,480	Saint John.....	687,393	797,043
Windsor.....	1	10,499	St. Andrews.....	20,328	21,500
			St. George.....	1	13,724
			St. Stephen.....	41,924	38,350
			Sackville.....	44,099	53,598
			Shediac.....	11,496	13,205
			Sussex.....	30,051	35,734
			Woodstock.....	43,311	49,823
Prince Edward Island	407,820	459,510			
Charlottetown.....	207,979	235,145	Quebec	27,392,476	32,740,378
Montague.....	11,369	13,412	Acton Vale.....	11,408	13,381
Summerside.....	58,999	66,659	Amos.....	38,986	46,969
			Amqui.....	19,490	23,082
			Arthabaska.....	1	11,165
Nova Scotia	4,095,054	4,634,221	Arvida.....	42,591	53,424
Amherst.....	76,941	89,455	Asbestos.....	30,831	37,290
Annapolis Royal.....	14,008	15,746	Aylmer East.....	11,217	11,959
Antigonish.....	50,274	55,740	Bagotville.....	14,847	15,248
Baddeck.....	1	10,318	Baie Comeau.....	28,212	32,841
Bedford.....	12,472	14,076	Baie St. Paul.....	11,193	12,568
Berwick.....	11,685	14,133	Basilique Ste. Anne.....	44,817	46,647
Bridgetown.....	16,996	17,658	Beauceville East.....	16,043	16,690
Bridgewater.....	46,281	52,264	Beauharnois.....	27,632	29,589
Chester.....	10,769	11,901	Bedford.....	17,855	21,303
Cornwallis.....	16,553	21,213	Berthierville.....	16,311	18,094
Digby.....	27,825	31,585	Bourlamaque.....	14,503	13,184
Glace Bay.....	66,005	70,986	Brownsburg.....	10,247	12,113
Halifax.....	1,999,536	2,270,419	Buckingham.....	23,782	30,398
Hantsport.....	1	11,461	Cabano.....	10,084	12,167
Inverness.....	10,592	10,390	Cap de la Madeleine.....	76,220	107,130
Kentville.....	64,641	78,940	Chambly.....	13,247	14,682
Kingston.....	12,366	10,995	Chandler.....	19,949	22,166
Liverpool.....	32,773	36,080	Chicoutimi.....	169,913	292,727
Lunenburg.....	26,862	28,390	Coaticook.....	25,474	29,073
Mahone Bay.....	1	10,826	Cookshire.....	10,121	10,922
Middleton.....	23,859	26,555	Cowansville.....	37,844	46,810
Mulgrave.....	10,075	10,339	Danville.....	12,692	14,737
New Glasgow.....	94,000	106,427	Dolbeau.....	24,033	27,136
New Waterford.....	25,082	26,742	Donnacona.....	12,381	15,611
North Sydney.....	37,922	41,393	Dorion-Vaudreuil.....	15,672	18,318
Oxford.....	10,798	10,798	Dorval Station.....	1	12,198
Parrsboro.....	12,531	14,363	Drummondville.....	145,785	177,642
Pictou.....	25,339	28,523	East Angus.....	13,158	15,919
RCAF Station Greenwood.....	1	12,819	Farnham.....	27,364	32,386
Shelburne.....	17,057	20,910	Forestville.....	13,809	13,174
Springhill.....	23,224	27,142	Gardenvale.....	176,609	235,812
Stellarton.....	24,953	27,595	Gaspé.....	27,037	30,184
Sydney.....	226,364	267,500	Gatineau.....	22,455	29,969
Sydney Mines.....	21,396	23,266	Granby.....	156,060	181,523
Truro.....	146,676	168,647	Grand'Mère.....	44,599	54,731
Westville.....	11,633	12,520	Hull.....	140,345	169,754
Windsor.....	35,598	41,542	Huntingdon.....	21,204	23,388
Wolfville.....	27,647	32,149	Joliette.....	88,193	101,037
Yarmouth.....	69,470	92,243	Jonquière-Kenogami.....	72,596	87,915
			Knowlton.....	10,561	12,020
New Brunswick	3,242,025	3,681,193			
Bathurst.....	48,341	60,152			
Campbellton.....	59,996	70,069			
Chatham.....	28,047	32,907			

¹ Less than \$10,000.

3.—Gross Postal Revenue of Offices collecting upwards of \$10,000 for the Years Ended Mar. 31, 1954 and 1955—continued

Province and Post Office	1954	1955	Province and Post Office	1954	1955
	\$	\$		\$	\$
Quebec—continued			Quebec—concluded		
Labrieville.....	1	28,003	Sherbrooke.....	429,093	507,873
Lachute.....	28,528	33,426	Sorel.....	76,688	85,087
Lachute Mills.....	1	12,587	Sutton.....	10,706	11,902
Lac Mégantic.....	28,443	31,447	Terrebonne.....	15,309	17,162
Lacolle.....	14,403	15,008	Thetford Mines.....	78,483	97,808
La Malbaie.....	16,083	19,482	Three Rivers.....	300,385	368,423
Laprairie.....	11,822	13,305	Timiskaming Station.....	14,080	16,919
La Sarre.....	26,841	29,679	Trois Pistoles.....	16,729	18,994
L'Assomption.....	11,981	14,218	Val d'Or.....	53,054	71,277
La Tuque.....	39,120	44,976	Valleyfield.....	9,230	90,444
Lennoxville.....	26,411	30,837	Victoriaville.....	7,921	86,129
Lévis.....	134,666	158,446	Ville-Marie.....	10,135	11,618
Loretteville.....	14,073	16,362	Ville St. Georges.....	25,646	31,904
Louiseville.....	15,737	19,764	Warwick.....	10,915	12,659
Magog.....	48,848	51,485	Waterloo.....	25,217	30,570
Malartic.....	22,053	25,203	Windsor.....	12,600	15,570
Maniwaki.....	21,332	27,321			
Marieville.....	13,502	16,755	Ontario.....	49,225,014	57,973,619
Matane.....	38,519	45,734	Acton.....	22,189	25,054
Metabetchouan.....	1	11,229	Agincourt.....	14,061	23,412
Mont Joli.....	32,800	39,261	Ajax.....	31,323	41,056
Mont Laurier.....	26,869	33,305	Aldershot.....	1	12,908
Montmagny.....	39,750	46,310	Alexandria.....	15,531	18,181
Montreal.....	16,970,215	20,397,613	Alliston.....	16,473	20,291
Neuville.....	21,417	23,073	Almonte.....	15,832	18,673
New Carlisle.....	14,785	18,175	Amherstburg.....	28,703	33,159
Nicolet.....	56,354	48,758	Ancaster.....	11,223	16,289
Noranda.....	52,229	61,739	Ansonville.....	10,213	12,551
Plessisville.....	20,340	22,149	Arnprior.....	37,724	50,708
Plessisville Station.....	12,243	13,098	Atikokan.....	21,227	29,665
Port Alfred.....	13,429	16,045	Aurora.....	33,142	41,730
Princeville.....	10,870	13,809	Aylmer West.....	33,233	40,343
Quebec.....	2,650,065	3,162,366	Bancroft.....	16,404	21,246
Rawdon.....	10,091	14,659	Barrie.....	133,330	170,196
RCAF Station (St. Hubert).....	15,882	23,743	Barrys Bay.....	1	10,320
RCAF Station (St. Jean).....	1	11,469	Bartonville.....	10,135	10,927
Richmond.....	20,884	25,058	Batawa.....	17,617	20,273
Rigaud.....	1	11,108	Beamsville.....	20,606	23,138
Rimouski.....	119,022	146,852	Beaverton.....	11,043	13,470
Rivière-du-Loup.....	60,747	73,755	Belleville.....	229,242	289,166
Roberval.....	33,089	37,185	Beverly Hills.....	13,729	22,430
Rock Island.....	30,368	31,502	Billings Bridge (Ottawa).....	11,885	15,385
Rouyn.....	60,886	75,859	Blenheim.....	27,393	31,504
Ste. Agathe-des-Monts.....	38,428	43,178	Blind River.....	13,763	19,709
Ste. Anne-de-Beaupré.....	18,111	21,489	Bolton.....	1	11,457
Ste. Anne-de-Bellevue.....	19,884	23,067	Bowmanville.....	43,671	51,604
Ste. Anne-de-la-Pérade.....	1	11,260	Bracebridge.....	32,150	38,310
Ste. Anne-de-la-Pocatière.....	17,504	20,214	Bradford.....	16,151	24,703
Ste. Anne-des-Monts.....	1	10,719	Brampton.....	106,983	128,443
St. Eustache.....	14,501	17,365	Brantford.....	428,161	492,950
St. Félix.....	15,821	20,163	Brighton.....	15,611	19,439
St. Gabriel-de-Brandon.....	11,715	13,532	Brockville.....	138,297	161,293
Ste. Geneviève-de-			Bronte.....	1	12,192
Pierrefonds.....	1	10,475	Burks Falls.....	10,321	11,198
St. Georges-Ouest.....	1	10,445	Burlington.....	83,582	111,123
St. Hyacinthe.....	137,364	163,181	Byron.....	1	13,730
St. Jean.....	142,690	171,505	Caledonia.....	13,627	15,797
St. Jean-Port-Joli.....	1	11,441	Campbellford.....	23,329	28,231
St. Jérôme.....	74,224	96,678	Camp Borden.....	27,334	32,690
St. Joseph-d'Alma.....	31,227	37,546	Capreol.....	1	11,201
St. Joseph-de-Beauce.....	12,824	14,562	Cardinal.....	13,642	16,570
St. Jovite.....	10,060	12,384	Carleton Place.....	29,150	33,771
Ste. Marie-Beauce.....	22,551	25,301	Chalk River.....	16,636	15,595
St. Pascal.....	12,484	13,315	Chapleau.....	22,739	26,221
St. Raymond.....	13,168	14,760	Chatham.....	245,421	288,927
Ste. Rose.....	14,951	18,579	Chelmsford.....	1	10,124
Ste. Thérèse-de-Blainville.....	35,830	40,095	Chesley.....	13,240	15,452
St. Tite.....	11,972	13,324	Chesterville.....	1	12,009
Senneterre.....	12,890	14,862	Chippawa.....	12,993	12,354
Seven Islands.....	42,410	47,530	Clarkson.....	11,455	14,284
Shawinigan Falls.....	112,496	138,346	Clinton.....	24,941	29,776
Shawville.....	11,551	13,369	Cobalt.....	16,075	18,083

¹ Less than \$10,000.

3.—Gross Postal Revenue of Offices collecting upwards of \$10,000 for the Years Ended Mar. 31, 1954 and 1955—continued

Province and Post Office	1954	1955	Province and Post Office	1954	1955
	\$	\$		\$	\$
Ontario—continued			Ontario—continued		
Cobourg.....	71,908	90,484	Leamington.....	73,573	85,126
Cochrane.....	31,065	35,593	Levack.....	1	11,749
Colborne.....	1	11,714	Lindsay.....	89,122	101,889
Collingwood.....	45,453	49,469	Listowel.....	25,888	29,963
Cooksville.....	32,065	43,089	Little Current.....	14,062	16,708
Copper Cliff.....	26,186	34,831	London.....	1,613,913	1,883,745
Cornwall.....	165,277	212,197	Lorne Park.....	1	10,963
Corunna.....	1	10,123	Lucknow.....	1	10,917
Crystal Beach.....	10,247	10,519	Madoc.....	12,271	14,535
Deep River.....	15,327	18,883	Malton.....	26,710	30,145
Delhi.....	26,970	32,311	Maple.....	10,303	13,098
Don Mills.....	1	22,130	Marathon.....	14,055	17,187
Downsview.....	13,618	25,007	Markdale.....	1	10,712
Dresden.....	15,360	18,267	Markham.....	13,283	16,530
Dryden.....	30,769	38,634	Marmora.....	1	11,346
Dundas.....	51,899	64,897	Matheson.....	1	11,292
Dunnville.....	42,524	50,665	Mattawa.....	13,561	14,575
Durham.....	14,027	21,914	Meaford.....	23,932	29,008
Eganville.....	14,512	14,660	Midland.....	50,884	60,200
Elmira.....	20,160	24,039	Milton West.....	28,372	35,402
Elora.....	11,368	11,137	Minden.....	10,606	12,399
Englehart.....	11,965	13,197	Mitchell.....	12,260	14,796
Espanola.....	19,065	21,784	Morrisburg.....	15,892	18,744
Essex.....	26,298	30,842	Mount Forest.....	17,544	21,111
Exeter.....	19,799	22,948	Napanee.....	35,525	44,779
Falconbridge.....	1	10,020	New Hamburg.....	14,209	16,025
Fenelon Falls.....	12,979	15,120	New Liskeard.....	65,352	78,910
Fergus.....	37,996	41,499	Newmarket.....	52,552	63,273
Ferris.....	1	12,735	Newton Brook.....	18,306	1
Fonthill.....	10,004	11,697	Niagara Falls.....	433,567	477,459
Forest.....	15,739	17,825	Niagara-on-the-Lake.....	49,939	41,978
Fort Erie.....	97,519	112,614	Nipigon.....	14,055	15,362
Fort Frances.....	53,349	61,323	North Bay.....	197,842	248,397
Fort Henry.....	1	11,203	Norwich.....	12,613	14,895
Fort William.....	300,407	344,463	Oakville.....	148,032	183,331
Galt.....	183,460	217,821	Orangeville.....	30,725	36,755
Gananoque.....	40,925	46,098	Orillia.....	119,798	145,050
Georgetown.....	70,673	78,001	Oshawa.....	522,884	630,823
Geraldton.....	21,033	25,348	Ottawa.....	2,501,549	3,122,123
Glencoe.....	1	10,979	Owen Sound.....	159,248	193,163
Goderich.....	38,791	51,263	Palmerston.....	12,056	12,976
Gore Bay.....	10,307	12,234	Paris.....	70,401	55,050
Gravenhurst.....	28,404	33,157	Park Hill.....	1	11,351
Grimsby.....	34,454	40,024	Parry Sound.....	41,578	50,685
Guelph.....	289,791	340,065	Pembroke.....	91,670	115,271
Hagersville.....	18,826	21,719	Penetanguishene.....	19,531	22,135
Haileybury.....	20,040	23,878	Perth.....	49,407	57,869
Haliburton.....	12,360	15,393	Petawawa Camp.....	16,983	21,073
Hamilton.....	2,090,903	2,446,455	Peterborough.....	356,749	421,222
Hanover.....	30,505	34,573	Petrolia.....	18,973	22,778
Harriston.....	12,093	14,320	Pickering.....	13,656	15,280
Harrow.....	17,724	19,526	Pictou.....	52,301	61,616
Hawkesbury.....	28,080	32,823	Point Edward.....	14,500	12,676
Hearst.....	21,798	24,793	Port Arthur.....	257,584	301,409
Hespeler.....	26,100	29,340	Port Burwell.....	1	12,947
Highland Creek.....	11,470	14,612	Port Colborne.....	72,091	87,652
Huntsville.....	45,971	54,330	Port Credit.....	90,398	125,552
Ingersoll.....	46,660	55,911	Port Dalhousie.....	16,404	18,463
Iondale Heights.....	1	12,159	Port Dover.....	18,802	21,090
Iroquois.....	1	11,030	Port Elgin.....	13,400	15,882
Iroquois Falls.....	11,842	14,301	Port Hope.....	63,878	75,014
Jamestown.....	13,844	15,767	Port Perry.....	12,667	15,679
Kapusking.....	40,276	46,302	Powassan.....	1	10,789
Kemptville.....	18,207	20,469	Prescott.....	35,247	43,960
Kenora.....	73,387	91,984	Preston.....	74,527	85,067
Kincardine.....	20,972	24,313	Rainy River.....	1	10,599
Kingston.....	391,497	481,848	RCAF Station, Borden.....	12,416	16,999
Kingsville.....	26,146	30,266	RCAF Station, Centralia.....	1	11,904
Kirkland Lake.....	93,818	109,278	RCAF Station, Clinton.....	11,155	13,910
Kitchener.....	502,491	621,460	RCAF Station, Rockcliffe.....		
Lakefield.....	13,752	16,162	Ottawa.....	16,907	31,427
Lambeth.....	13,644	16,431	RCAF Station, Trenton.....	32,660	40,787

1 Less than \$10,000.

2 Closed May 1954.

3.—Gross Postal Revenue of Offices collecting upwards of \$10,000 for the Years Ended Mar. 31, 1954 and 1955—continued

Province and Post Office	1954	1955	Province and Post Office	1954	1955
\$	\$	\$	\$	\$	\$
Ontario—concluded			Manitoba—concluded		
Red Lake.....	11,029	13,607	Brandon.....	220,793	256,101
Renfrew.....	55,665	67,782	Carman.....	17,081	18,349
Richmond Hill.....	24,343	30,695	Dauphin.....	61,514	68,042
Ridgetown.....	18,146	21,496	Deloraine.....	1	10,410
Ridgeway.....	12,646	15,262	Flin Flon.....	55,486	61,852
Rodney.....	1	10,835	Fort Churchill.....	12,100	17,456
St. Catharines.....	417,293	534,522	Gimli.....	10,011	11,504
St. Mary's.....	31,829	37,753	Gladstone.....	1	10,820
St. Thomas.....	174,863	200,179	Grand View.....	1	10,075
Sarnia.....	265,403	322,598	Killarney.....	12,343	14,246
Sault Ste. Marie.....	229,378	264,469	Lac-du-Bonnet.....	1	10,203
Scarborough Junction.....	10,397	11,571	Melita.....	1	10,191
Schreiber.....	1	11,337	Minnedosa.....	18,042	20,889
Schumacher.....	15,284	17,658	Morden.....	15,142	17,476
Seaforth.....	19,452	22,030	Morris.....	1	10,103
Shelburne.....	11,671	13,569	Neepawa.....	27,134	30,755
Simcoe.....	91,630	105,970	Pine Falls.....	11,466	13,677
Sioux Lookout.....	23,440	26,109	Portage la Prairie.....	85,959	98,521
Smith's Falls.....	58,055	70,089	Rivers.....	1	10,341
Smooth Rock Falls.....	10,735	12,650	Rivers Camp.....	1	10,252
Southampton.....	11,322	13,449	Roblin.....	13,098	14,689
South Porcupine.....	23,093	24,345	Russell.....	11,388	12,800
Stayner.....	11,250	14,109	Selkirk.....	29,590	33,848
Stirling.....	1	10,925	Shilo Camp.....	12,548	16,423
Stoney Creek.....	21,917	28,639	Sifton.....	16,898	16,498
Stouffville.....	16,570	19,677	Souris.....	13,738	15,299
Stratford.....	164,807	208,386	Steinbach.....	19,133	25,281
Strathroy.....	33,043	42,135	Swan River.....	23,232	26,625
Streetsville.....	17,354	21,997	The Pas.....	26,197	31,644
Sturgeon Falls.....	20,907	26,840	Transcona.....	17,844	21,073
Sudbury.....	372,834	447,461	Virdein.....	21,610	31,305
Sutton West.....	1	11,879	Wawanesa.....	10,619	10,667
Tavistock.....	1	10,312	Winkler.....	11,374	12,880
Tecumseh.....	12,505	14,965	Winnipeg.....	6,772,267	7,500,175
Terrace Bay.....	1	11,028			
Thamesville.....	10,482	12,601	Saskatchewan..... 6,042,582 6,745,613		
Thessalon.....	11,142	13,737	Assiniboia.....	23,231	24,926
Thornhill.....	12,979	16,399	Biggar.....	16,881	18,970
Thorold.....	63,645	79,099	Broadview.....	10,192	11,083
Tilbury.....	22,153	24,111	Canora.....	16,640	17,500
Tillsonburg.....	50,552	62,240	Carlyle.....	10,107	10,654
Timmins.....	131,871	157,469	Davidson.....	1	10,652
Toronto.....	25,592,718	29,866,145	Estevan.....	38,406	40,023
Trenton.....	70,130	85,849	Eston.....	11,363	13,517
Tweed.....	17,135	19,935	Foam Lake.....	10,833	12,072
Uxbridge.....	16,590	18,520	Fort San.....	1	11,538
Vankleek Hill.....	1	11,006	Gravelbourg.....	13,969	14,830
Walkerton.....	29,488	34,440	Grenfell.....	1	10,934
Wallaceburg.....	56,245	65,475	Gull Lake.....	1	11,140
Waterdown.....	11,287	15,012	Hudson Bay.....	10,703	14,116
Waterford.....	12,800	14,421	Humboldt.....	29,368	33,624
Waterloo.....	187,835	231,153	Indian Head.....	14,116	15,112
Watford.....	12,268	13,278	Kamsack.....	16,843	19,569
Welland.....	190,070	222,430	Kerrobert.....	11,071	13,746
Westboro (Ottawa).....	55,159	95,497	Kindersley.....	20,439	25,331
West Hill.....	14,693	18,957	Lloydminster.....	47,987	56,914
Wexford.....	1	19,106	Maple Creek.....	19,744	21,899
Wheatley.....	1	10,847	Meadow Lake.....	17,342	19,692
Whitby.....	37,277	46,160	Melfort.....	35,223	39,406
Wiaraton.....	14,707	17,842	Melville.....	32,405	36,685
Willowdale.....	143,302	199,403	Moose Jaw.....	238,400	271,325
Winchester.....	13,040	15,545	Moosomin.....	15,993	18,393
Windsor.....	1,279,143	1,445,605	Nipawin.....	23,045	25,520
Wingham.....	24,451	28,393	North Battleford.....	94,063	105,519
Winston Park.....	1	10,814	Outlook.....	1	11,065
Woodbridge.....	15,291	17,760	Prince Albert.....	173,028	188,305
Woodstock.....	161,400	197,641	Regina.....	2,198,493	2,480,075
			Rosetown.....	23,412	27,418
Manitoba..... 8,366,374 9,322,701			Rosthern.....	13,613	13,210
Altona.....	12,763	15,175	Saskatoon.....	848,353	960,686
Beauséjour.....	12,910	14,668	Shaunavon.....	20,780	22,855
Boissevain.....	11,050	12,814	Shellbrook.....	1	10,011

1 Less than \$10,000.

**3.—Gross Postal Revenue of Offices collecting upwards of \$10,000 for the
Years Ended Mar. 31, 1954 and 1955—continued**

Province and Post Office	1954	1955	Province and Post Office	1954	1955
	\$	\$		\$	\$
Saskatchewan—concluded			Alberta—concluded		
Swift Current.....	90,552	106,196	Westlock.....	18,727	21,705
Tisdale.....	27,190	29,038	Wetaskiwin.....	39,403	45,487
Unity.....	16,111	19,466			
Uranium City.....	12,298	17,052	British Columbia	11,748,508	13,572,706
Wadena.....	14,498	15,234	Abbotsford.....	41,659	49,448
Watrous.....	11,544	12,934	Agassiz.....	1	10,506
Weyburn.....	52,012	62,790	Alberni.....	20,820	24,292
Wilkie.....	16,063	16,819	Aldergrove.....	11,854	14,235
Wynyard.....	12,940	14,297	Alert Bay.....	1	11,049
Yorkton.....	94,911	108,654	Armstrong.....	15,142	17,461
			Ashcroft.....	1	11,366
Alberta	7,445,433	8,781,175	Burns Lake.....	21,041	16,912
Athabasca.....	12,743	14,643	Campbell River.....	31,779	37,466
Banff.....	59,117	65,195	Castlegar.....	13,121	14,843
Banff Springs Hotel.....	1	12,195	Chemainus.....	17,566	19,169
Barrhead.....	15,130	17,348	Chilliwack.....	89,719	106,498
Beaverlodge.....	10,087	12,445	Cloverdale.....	38,582	46,104
Blairmore.....	13,895	14,855	Comox.....	10,051	1
Bonnyville.....	13,513	16,029	Courtenay.....	55,496	61,887
Bowden.....	11,507	13,202	Cranbrook.....	46,804	52,929
Bowness.....	12,373	16,727	Creston.....	24,938	29,613
Brooks.....	24,336	27,946	Dawson Creek.....	48,343	57,815
Calgary.....	2,070,924	2,503,801	Duncan.....	68,264	77,353
Camrose.....	50,607	60,352	Enderby.....	11,253	12,515
Cardston.....	18,173	20,161	Fernie.....	23,320	25,598
Castor.....	1	10,599	Fort St. John.....	17,502	20,829
Château Lake Louise.....	1	11,091	Ganges.....	10,590	12,063
Clareholm.....	26,713	30,184	Gibsons.....	11,059	13,337
Coaldale.....	10,935	13,141	Golden.....	10,657	12,458
Coleman.....	14,410	13,668	Grand Forks.....	17,473	20,687
Devon.....	10,163	10,059	Haney.....	36,653	43,567
Didsbury.....	13,568	15,648	Harrison Hot Springs.....	1	10,669
Drumheller.....	43,850	50,420	Hope.....	17,863	19,993
Edmonton.....	2,566,653	3,074,284	Kamloops.....	135,783	162,466
Edson.....	24,304	26,210	Kelowna.....	128,658	151,836
Fairview.....	12,439	14,981	Kemano.....	41,414	12,040
Fort Macleod.....	16,518	19,143	Kimberley.....	34,414	37,184
Fort Saskatchewan.....	11,328	14,757	Kitimat.....	27,417	41,732
Grand-Centre.....	1	10,419	Ladner.....	25,545	31,305
Grande Prairie.....	51,589	66,761	Ladysmith.....	18,022	21,269
Hanna.....	20,964	22,904	Lake Cowichan.....	10,543	12,564
High Prairie.....	14,058	16,729	Langley Prairie.....	41,881	46,916
High River.....	19,827	22,424	Lillooet.....	1	10,987
Innisfail.....	20,460	22,273	Merritt.....	12,278	14,035
Jasper.....	24,560	26,809	Mission City.....	51,152	56,406
Lacombe.....	31,106	34,616	Nakusp.....	1	10,267
Leduc.....	15,580	17,225	Nanaimo.....	130,967	157,886
Lethbridge.....	291,107	334,379	Nelson.....	111,080	126,547
Medicine Hat.....	119,905	138,292	New Westminster.....	427,305	507,220
Nanton.....	11,271	12,257	Ocean Falls.....	21,345	26,201
North Edmonton.....	15,728	19,454	Oliver.....	24,448	26,869
Olds.....	24,048	26,703	Osoyoos.....	12,248	13,833
Peace River.....	31,598	37,050	Parksville.....	12,830	14,697
Pincher Creek.....	16,534	20,046	Penticton.....	96,816	116,609
Ponoka.....	30,216	33,702	Port Alberni.....	63,893	79,151
Provost.....	1	11,755	Port Alice.....	1	10,032
Raymond.....	13,792	15,425	Port Coquitlam.....	18,092	20,419
RCAF Station, Edmonton.....	15,853	19,638	Port Moody.....	1	11,763
Red Deer.....	108,689	135,421	Powell River.....	28,903	34,264
Rimby.....	1	10,939	Prince George.....	103,873	125,744
Rocky Mountain House.....	14,972	17,659	Prince Rupert.....	105,148	114,087
St. Paul.....	19,332	22,084	Princeton.....	17,097	19,865
Spirit River.....	1	10,233	Qualicum Beach.....	14,180	14,656
Stettler.....	33,818	39,561	Quesnel.....	37,128	45,356
Stony Plain.....	1	11,614	Revelstoke.....	27,153	29,629
Taber.....	24,821	28,476	Rossland.....	22,132	23,125
Three Hills.....	37,146	42,347	Royal Oak.....	10,418	13,022
Vegreville.....	22,491	26,736	Saanichton.....	10,780	1
Vermilion.....	24,097	27,849	Salmon Arm.....	28,961	34,270
Viking.....	10,083	11,703	Sardis.....	14,290	17,103
Vulcan.....	14,400	16,368	Sidney.....	22,803	26,616
Wainwright.....	24,764	26,073	Smithers.....	20,969	24,112

¹ Less than \$10,000.

3.—Gross Postal Revenue of Offices collecting upwards of \$10,000 for the Years Ended Mar. 31, 1954 and 1955—concluded

Province and Post Office	1954	1955	Province and Post Office	1954	1955
	\$	\$		\$	\$
British Columbia—concluded			Northwest Territories.....	41,346	48,803
Squamish.....	1	11,671	Yellowknife.....	21,347	25,191
Steveston.....	17,542	21,657			
Terrace.....	21,824	26,802			
Trail.....	122,185	138,634			
Vancouver.....	6,456,039	7,482,112	Summary		
Vancouver, Air Mail Field.....	23,099	28,661	Newfoundland.....	1,309,380	1,433,988
Vanderhoof.....	12,307	14,714	Prince Edward Island.....	407,820	459,510
Vedder Crossing.....	1	11,686	Nova Scotia.....	4,095,054	4,634,221
Vernon.....	101,658	116,740	New Brunswick.....	3,242,025	3,681,193
Victoria.....	1,338,923	1,519,831	Quebec.....	27,392,476	32,740,378
Victoria Fleet Mail Office.....	25,435	25,289	Ontario.....	49,225,014	57,973,619
West Summerland.....	16,607	18,373	Manitoba.....	8,366,374	9,322,701
Westview.....	16,926	20,884	Saskatchewan.....	6,042,582	6,745,613
White Rock.....	31,379	33,484	Alberta.....	7,445,433	8,781,175
White Rock Hilltop.....	1	13,541	British Columbia.....	11,748,508	13,572,706
Williams Lake.....	24,699	33,618	Yukon and N.W.T.....	135,908	159,510
Youbou.....	1	10,001			
Yukon Territory.....	94,562	110,707	Canada.....	119,410,574	139,504,614
Dawson.....	13,683	13,750			
Whitehorse.....	61,616	69,542	P.C. of all Postal Revenue..	91.9	92.0

¹ Less than \$10,000.

Postage.—The gross revenue receipts shown in Table 2 are received mainly from postage, either in the form of postage stamps and stamped stationery, or postage meter and postage register machine impressions. Some postage is also paid in cash without stamps, stamped stationery or meter and register impressions. The gross value of the postage stamps and stamped stationery sold during each of the latest five fiscal years was: \$57,178,573 in 1950-51, \$65,093,099 in 1951-52, \$67,182,548 in 1952-53, \$64,546,067 in 1953-54 and \$74,583,720 in 1954-55. Receipts from postage meter or postage register impressions and postage paid in cash by other means were as follows: \$39,979,297 in 1950-51, \$48,945,565 in 1951-52, \$52,733,682 in 1952-53, \$55,398,788 in 1953-54 and \$65,516,441 in 1954-55.

Section 2.—Auxiliary Postal Services

Auxiliary postal services include the issuing of money orders and the operation of the Post Office Savings Bank.

Table 4 shows the amount of money order business conducted by the postal service in recent years. A table showing the financial business of the Post Office Savings Bank will be found in Chapter XXVI, Currency and Banking.

4.—Operations of the Money Order System, Years Ended Mar. 31, 1946-55

NOTE.—Figures from 1868 will be found in the corresponding table of previous Year Books beginning with the 1911 edition.

Year	Money Order Offices in Canada	Money Orders Issued in Canada	Value of Orders Issued in Canada	Value Payable in—		Value of Orders Issued in Other Countries, Payable in Canada
				Canada	Other Countries	
	No.	No.	\$	\$	\$	\$
1946.....	7,377	22,031,756	290,933,503	285,574,174	5,359,329	8,732,635
1947.....	7,416	25,184,900	329,557,703	321,728,205	7,829,498	9,150,238
1948.....	7,546	27,705,523	370,232,987	359,633,658	10,599,329	7,722,585
1949.....	7,614	28,851,065	415,703,754	409,167,635	6,536,119	7,410,014
1950.....	11,252	38,567,500	479,520,987	473,364,799	6,156,187	6,697,818
1951.....	11,387	40,415,207	511,915,621	505,935,524	5,980,096	3,920,218
1952.....	11,320	41,782,109	580,823,622	571,396,122	9,427,500	3,019,522
1953.....	11,288	43,067,940	623,266,884	606,289,305	16,977,579	4,982,551
1954.....	11,264	45,797,958	676,080,657	656,515,831	19,564,826	4,763,566
1955.....	11,200	46,902,959	690,824,787	668,930,066	21,894,721	5,008,716

PART V.—THE PRESS

About 97 daily newspapers, counting morning and evening editions separately, are published in Canada, with an aggregate reported circulation of nearly 3,800,000—about 83 p.c. in English and the remainder in French. Ten of the papers enjoying circulations in excess of 100,000 account for more than half of the circulation and well over 90 p.c. of all newspaper circulation is in urban centres. French daily newspapers have, as would be expected, a wide circulation in the Province of Quebec and some of the largest of these papers have been established in that Province for over 60 years. Eleven of the 13 French language newspapers published in 1954 were established in Quebec Province, and one each in the Provinces of Ontario and New Brunswick.

Weekly or monthly publications include a considerable variety of foreign language publications including Ukrainian, German, Yiddish, Polish, etc. Weekly newspapers serve more people in rural communities than do the dailies. They cater to a limited local interest but, within the areas they serve, exercise an important influence.

The Canadian Press, a co-operative organization owned and operated by Canada's daily newspapers, provides its 95 members with world and Canadian news and news photographs, mostly by means of teletype and wirephoto transmission. It also serves weekly newspapers and radio and television stations. It is in effect a partnership through which each member newspaper provides to its fellow members the news of its particular area and through which the general news of the world is brought to Canada. Cost of editing and transmission is divided among members according to the population of the cities in which they publish. CP gets world news from Reuters, the British agency, and from the Associated Press, the United States co-operative, and these agencies have reciprocal arrangements with CP for their coverage of Canada.

The British United Press, privately owned and affiliated with the United Press, with twelve bureaux, also provides a service of Canadian and world news, news photographs and related features for Canadian newspapers, radio and television stations. There are as well special news services operated by affiliated newspapers and individual newspapers. Several foreign news agencies have representatives in Canada to supply and interpret news of Canadian origin, as have several of the leading United Kingdom and United States newspapers. Most of the latter are located at Ottawa.

Press Statistics.—The following tables are based on data estimated from *Canadian Advertising*. One serious difficulty has been encountered in connection with the compilation of circulation figures. Reliable circulation figures are relatively easy to obtain for daily newspapers because, in their own best interest, such papers qualify for and subscribe to the Audit Bureau of Circulation requirements: for these, A.B.C. 'net paid' figures were used. However it is difficult to obtain reliable circulation figures for many weekly newspapers that do not subscribe to the Audit Bureau. Here total circulation (paid and free) was taken where such figures were supported by sworn statements or some other reliable record.

In compiling magazine circulation, total net paid figures as reported by publishers to the Audit Bureau (including bulk sales) were used. Where such figures were not available—and this was rare—publishers' minimum claims or sworn statements were accepted.

**1.—Estimated Numbers and Circulations¹ of reporting Daily and Weekly²
English Language Newspapers by Province 1952-54**

NOTE.—Figures from 1945 will be found in the corresponding table of previous Year Books beginning with the 1947 edition.

Province or Territory	1952				1953				1954			
	Daily		Weekly		Daily		Weekly		Daily		Weekly	
	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
Nfld.....	3	29,814	5	34,487	3	31,737	4	30,424	3	31,703	4	29,122
P.E.I.....	2	19,044	1	3,541	2	18,852	1	5,611	2	18,910	1	5,435
N.S.....	5	142,807	28	79,211	5	145,305	26	75,539	5	148,470	27	80,066
N.B.....	3	72,829	16	46,849	3	74,797	16	46,554	3	75,701	19	58,863
Que.....	5	273,153	28	316,527	5	278,037	30	335,596	5	294,867	31	1,552,119
Ont.....	38	1,585,215	252	1,502,168	38	1,579,545	251	1,478,105	40	1,635,723	256	1,575,487
Man.....	6	181,311	63	86,688	6	191,290	63	89,532	6	196,697	66	107,506
Sask.....	4	90,826	151	162,177	4	93,925	145	156,098	4	98,480	152	164,614
Alta.....	5	177,714	113	117,657	5	187,810	102	121,923	5	196,823	99	128,153
B.C.....	11	389,188	76	181,623	11	410,310	77	188,197	11	431,679	80	197,510
Yukon and N.W.T.....	—	—	3	3,050	—	—	3	3,450	—	—	3	4,250
Canada.....	82	2,961,901	736	2,533,978	82	3,011,608	718	2,531,029	84	3,129,053	738	3,903,125

¹ Circulation not reported for all newspapers.

² Includes bi-weeklies, tri-weeklies and national week-end papers.

**2.—Estimated Numbers and Circulations¹ of reporting Daily and Weekly²
French Language Newspapers by Province 1952-54**

NOTE.—Figures from 1945 will be found in the corresponding table of previous Year Books beginning with the 1947 edition.

Province	1952				1953				1954			
	Daily		Weekly		Daily		Weekly		Daily		Weekly	
	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
N.S.....	—	—	1	1,435	—	—	1	1,435	—	—	1	1,433
N.B.....	1	9,178	1	4,000	1	8,527	1	3,843	1	7,468	2	7,144
Que.....	10	572,729	118	1,487,131	11	609,370	122	1,568,681	11	616,036	122	1,603,407
Ont.....	1	26,690	4	16,025	1	26,017	5	62,851	1	26,017	5	63,751
Man.....	—	—	1	9,191	—	—	1	9,291	—	—	1	10,120
Sask.....	—	—	1	1,202	—	—	1	1,202	—	—	1	1,202
Alta.....	—	—	1	2,700	—	—	1	2,700	—	—	1	3,409
Totals.....	12	608,597	127	1,521,684	13	643,914	132	1,650,003	13	649,521	133	1,690,466

¹ Circulation not reported for all newspapers.

² Includes national week-end papers.

3.—Estimated Numbers and Net Paid Circulations of reporting Daily and Weekly English Language Newspapers Published in Urban Centres of 30,000 Population or Over 1953 and 1954.

NOTE.—Figures from 1945 will be found in the corresponding table of previous Year Books beginning with the 1947 edition.

Urban Centre	Census 1951	1953				1954			
	House- holds	Daily		Weekly		Daily		Weekly	
		No.	Net Paid Circulation	No.	Net Paid Circulation	No.	Net Paid Circulation	No.	Net Paid Circulation
Brantford, Ont.....	10,375	1	19,080	—	—	1	19,940	—	—
Calgary, Alta.....	37,710	2	81,799	—	—	2	85,062	—	—
Edmonton, Alta.....	42,925	1	85,543	2	6,998	1	90,225	2	5,504
Fort William, Ont.....	9,300	1	13,316	—	—	1	13,758	—	—
Halifax, N.S.....	18,710	1	104,891	—	—	1	107,541	—	—
Hamilton, Ont.....	55,340	1	84,249	1	18,000 ¹	2	105,018	3	—
Kingston, Ont.....	8,710	1	18,959	1	38,222 ²	1	19,767	1	36,112 ³
Kitchener, Ont.....	11,570	1	29,203	—	—	1	30,973	—	—
London, Ont.....	26,385	1	86,074	—	—	1	90,023	—	—
Montreal, Que.....	247,485	3	264,665	8	234,477 ⁴	3	280,720	8	1,446,016 ⁴
Oshawa, Ont.....	11,225	1	11,986	—	—	2	12,992	—	—
Ottawa, Ont.....	48,965	2	118,917	—	—	2	119,102	—	—
Peterborough, Ont.....	10,020	1	15,878	1	6,046	1	17,678	1	5,823
Port Arthur, Ont.....	8,425	1	11,353	—	—	1	11,765	—	—
Quebec, Que.....	34,970	1	4,971	—	—	1	5,507	—	—
Regina, Sask.....	19,160	1	43,702	1	2,400	1	45,666	1	2,400
St. Catharines, Ont.....	10,380	1	20,882	—	—	1	22,548	—	—
St. John's, Nfld.....	10,570	2	26,862	2	25,307 ⁵	2	27,920	2	24,009 ⁵
Saint John, N.B.....	13,180	1	45,062	1	6,300	1	44,935	2	11,000
Sarnia, Ont.....	9,380	1	12,718	—	—	1	13,156	—	—
Saskatoon, Sask.....	14,980	1	35,520	—	—	1	37,355	—	—
Sault Ste. Marie, Ont.....	7,855	1	13,100	—	—	1	13,676	—	—
Sherbrooke, Que.....	11,545	1	8,401	1	3,400	1	8,640	1	3,400
Sudbury, Ont.....	9,450	1	21,038	—	—	1	23,206	—	—
Sydney, N.S.....	6,325	1	26,603	—	—	1	26,780	—	—
Toronto, Ont.....	157,175	4	865,048	5	961,123 ⁶	4	876,512	5	1,035,758 ⁶
Three Rivers, Que.....	9,530	—	—	1	3,975	—	—	1	4,036
Vancouver, B.C.....	101,330	3	332,560	3	12,500	3	350,851	3	11,500
Verdun, Que.....	19,805	—	—	2	33,101 ⁷	—	—	2	32,650 ⁷
Victoria, B.C.....	15,790	2	47,377	1	31,461 ⁸	2	48,704	1	31,889 ⁸
Windsor, Ont.....	31,815	1	73,242	—	—	1	74,818	—	—
Winnipeg, Man.....	64,630	2	178,923	—	—	2	183,458	—	—

¹ Tri-weekly. ² Now daily paper. ³ National week-end. ⁴ Includes 2 national week-end (one of which, a week-end supplement, is circulated with daily newspapers in other cities), 3 bilingual, 1 Saturday. ⁵ Includes 1 national week-end. ⁶ Includes 2 national week-end. ⁷ Includes 1 bilingual. ⁸ Sunday edition.

4.—Estimated Numbers and Circulations of reporting Daily and Weekly French Language Newspapers Published in Urban Centres of 30,000 Population or Over 1953 and 1954

NOTE.—Figures from 1945 will be found in the corresponding table of previous Year Books beginning with the 1947 edition.

Urban Centre	Census 1951	1953				1954			
	House- holds	Daily		Weekly		Daily		Weekly	
		No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
Edmonton, Alta.....	42,925	—	—	1	2,700	—	—	1	3,409
Hull, Que.....	9,325	—	—	2	7,275	—	—	3	71,275 ¹
Montreal, Que.....	247,485	5	345,481	17	1,176,386 ²	4	354,325	15	1,334,438 ³
Ottawa, Ont.....	48,965	1	26,017	1	46,800 ⁴	1	26,887	—	—
Quebec, Que.....	34,970	2	198,557	—	—	2	201,245	—	—
Sherbrooke, Que.....	11,545	1	23,853	1	30,775	1	25,187	1	35,866
Sudbury, Ont.....	9,450	—	—	1	1,851	—	—	1	1,851
Three Rivers, Que.....	9,530	1	27,121	3	13,559	1	28,997	2	7,648
Winnipeg, Man.....	64,630	—	—	1	9,291	—	—	1	10,120

¹ Includes 1 week-end supplement which is circulated with daily newspapers in other cities. ² Includes 7 bilingual, 5 national week-end, 2 Saturday and 1 Sunday edition. ³ Includes 4 bilingual, 7 national week-end, 2 Saturday, 1 Sunday. ⁴ National week-end.

5.—Estimated Numbers and Circulations of Weekly¹ Foreign Language Newspapers 1952-54

NOTE.—Figures from 1945 will be found in the corresponding table of previous Year Books beginning with the 1947 edition.

Language	1952		1953		1954	
	No.	Circulation	No.	Circulation	No.	Circulation
Bulgarian.....	1	1,000	1	1,000	1	1,000
Estonian.....	2	7,991	2	9,807	2	9,855
Finnish.....	4	14,691	4	15,206	4	14,440
German.....	4	32,484	5	38,484	5	38,994
Hungarian.....	1	2,349	2	8,543	2	7,584
Icelandic.....	3	13,175	2	8,605	2	3,935
Italian.....	2	20,670	2	20,770	3	25,917
Japanese.....	2	5,453	2	6,900	2	7,000
Latvian.....	1	4,000	1	5,180	1	5,181
Lithuanian.....	2	4,850 ²	2	4,850 ²	3	9,565 ²
Dutch.....	—	—	—	—	2	8,125
Norwegian.....	1	4,820	1	4,880	1	4,880
Polish.....	3	22,372	3	24,690	3	25,381
Russian.....	—	—	1	4,020	1	4,018
Slovak.....	1	3,128	1	3,150	2	7,620
Swedish.....	2	5,103	2	5,271	2	5,271
Ukrainian.....	7	62,743	7	67,251	6	62,418
Yiddish.....	3	28,465	3	28,465	3	28,465
Yugoslav.....	2	9,088	3	14,759	3	18,125

¹ Includes some bi- and tri-weeklies.

² Circulation for 2 newspapers only.

Table 6 shows the number of publications, other than newspapers, published in Canada. Monthly and weekly magazines and periodicals enjoy the largest circulation; those dealing with home, social and welfare, agricultural and rural topics, religious, trade, industry and related subjects are the most popular.

6.—Estimated Numbers and Circulations of reporting Magazines and Related Publications by Broad Classifications 1952-54

NOTE.—Figures from 1945 will be found in the corresponding table of previous Year Books beginning with the 1947 edition.

Classification	1952			1953			1954		
	Listed	Reporting		Listed	Reporting		Listed	Reporting	
		No.	Circulation		No.	Circulation		No.	Circulation
Agricultural and rural.....	56	55	2,569,817	57	56	2,588,544	59	57	2,610,199
Arts, crafts and professions.....	19	18	117,281	19	18	97,254	20	20	104,902
Construction.....	18	17	128,232	20	18	132,196	21	20	148,156
Educational.....	57	54	464,401	62	60	484,002	66	64	524,786
Finance and insurance.....	14	8	77,642	14	9	104,499	13	9	111,986
Government and government services.....	25	23	283,990	26	24	291,289	29	28	302,385
Home, social and welfare.....	48	44	4,146,807	45	42	4,039,670	46	42	4,336,715
Labour.....	21	17	247,172	20	15	209,783	16	13	231,757
Pharmaceutical and medical.....	33	30	119,547	32	28	122,221	33	30	129,717
Religious.....	36	36	743,280	37	37	816,129	33	33	628,264
Services and directories.....	63	55	367,475	62	55	435,109	61	56	455,200
Sports and entertainment.....	30	24	320,218	31	23	297,450	33	29	409,269
Trade, industry and other related publications.....	174	160	791,390	178	167	848,273	188	180	869,183
Transportation and travel.....	32	31	302,791	31	31	329,030	29	1	311,098
Miscellaneous.....	39	39	442,101	39	38	439,015	17	16	198,738
Totals.....	665	611	11,119,944	673	621	11,234,464	664	598	11,372,355

CHAPTER XXI.—DOMESTIC TRADE

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

PART I.—THE MOVEMENT AND MARKETING OF COMMODITIES

Domestic trade is broad and complicated: it encompasses all values added to commodities traded, provincially and interprovincially, by agencies and services connected with the storage, distribution and sale of goods, such as railways, steamships, warehouses, wholesale and retail stores, financial institutions, etc. Taken in a wide sense, it embraces various professional and personal services including those directed to the amusement of the people, such as theatres and sports. Only certain phases of this broad field are covered here and, wherever possible, cross references are given to related material appearing in other Chapters. The arrangement of material in a volume such as the Year Book is governed by the necessity of interpretation from various angles. The Index will be found useful in this respect.

Section 1.—Merchandising and Service Establishments*

Complete coverage of the business of wholesale and retail trades and of service establishments is attempted only as part of the decennial census. The first such detailed survey was taken in connection with the 1931 Census and related to business transacted during the calendar year 1930. Similar detailed records were again secured with the 1941 and 1951 Censuses. The results of the 1930 and 1941 Censuses of Merchandising and

* Prepared in the Merchandising and Services Section of the Industry and Merchandising Division, Dominion Bureau of Statistics.

Service Establishments are contained in Vols. X and XI of the Census reports for those years and the results of the 1951 Census of Distribution in Vols. VII and VIII of the 1951 Census reports. Summary data for 1951 are given in the 1955 Year Book, pp. 953-977.

The information collected at the census is supplemented in intercensal years by monthly, quarterly and annual surveys on the more important phases of the retail, wholesale and service trades—sample surveys for some businesses and full coverage for others. The 1951 Census formed a new base for such surveys and certain improvements have been implemented for continuance during the 1951-61 intercensal period.

Current information available on the more important phases of the distributive trades is given in the following Subsections. Estimates for the years prior to 1951 have been revised in accordance with the Census base.

Subsection 1.—Wholesale Trade

Wholesale Sales.—Following the completion of the 1951 Census an improved and extended sample of wholesale businesses was selected and estimates of wholesale trade produced. Table 1 covers only the field of wholesalers proper, that is, those firms which perform the function of buying merchandise on their own account for resale and generally warehousing and delivering to customers. Estimated sales shown are subject to possible revision resulting from further refinements in the sample and in estimating procedures.

1.—Wholesale Sales by Kind of Business 1951-54

NOTE.—Includes only wholesalers proper, i.e., firms performing the function of buying merchandise on their own account for resale.

Kind of Business	1951 (actual sales)	1952	1953	1954
	\$'000	\$'000	\$'000	\$'000
Fresh fruits and vegetables.....	183,428	212,407	202,027	211,145
Groceries and food specialties.....	883,323	909,255	944,999	1,036,220
Meat and dairy products.....	173,147	162,358	171,759	171,108
Clothing and furnishings.....	85,242	89,275	88,907	80,944
Footwear.....	28,456	29,370	28,434	26,770
Other textile and clothing accessories.....	180,214	183,509	180,711	174,179
Drugs and drug sundries.....	133,260	140,079	147,695	153,124
Household electrical appliances.....	93,200	125,446	138,179	150,136
Farm machinery.....	65,653	72,459	71,247	52,084
Coal and coke.....	226,665	224,524	197,161	179,007
Hardware.....	266,926	261,623	268,808	260,809
Construction materials and supplies, including lumber.....	514,956	505,916	550,448	546,698
Industrial and transportation equipment and supplies.....	437,036	536,492	533,486	462,233
Commercial, institutional and service equipment and supplies.....	72,574	78,033	82,954	89,240
Automotive parts and accessories.....	246,750	263,535	269,308	262,035
Newsprint, paper and paper products.....	212,621	226,250	236,752	249,481
Tobacco, confectionery and soft drinks.....	457,473	524,921	504,556	498,537
Other.....	1,483,431	1,460,742	1,625,480	1,458,815
Totals, All Trades.....	5,744,355	6,006,195	6,242,912	6,062,566

Operating Results of Wholesalers.—The fourth biennial survey of the operating results of wholesalers for certain trades shows operating expenses and profits in ratio to net sales for the year 1953. More detail is given in DBS Bulletins covering the individual trades.

2.—Operating Results of Selected Wholesale Trades 1953

NOTE.—All figures except stock turnover are percentages of net sales.

Kind of Business	Gross Profit	Selling Expense	Ware-house and Delivery Expense	Administrative and General Expense	Net Operating Profit	Net Non-trading Income	Net Profit before Income Tax Deduction	Stock Turnover Rate ¹
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	
Grocery.....	7.66	1.40	2.53	3.27	0.46	0.49	0.95	10.44
Fruits and vegetables.....	11.79	2.12	4.87	4.06	0.74	0.12	0.86	34.70
Tobacco and confectionery.....	7.63	2.16	1.69	2.68	1.10	0.19	1.29	17.16
Dry goods.....	16.01	4.93	2.59	6.85	1.64	0.41	2.05	4.64
Piece goods.....	16.10	4.75	2.18	7.97	1.20	0.38	1.58	3.92
Footwear.....	13.51	3.94	2.10	6.40	1.07	1.09	2.16	5.08
Automotive parts and accessories.....	24.91	7.43	4.34	9.85	3.29	1.08	4.37	4.26
Hardware.....	19.45	4.24	3.24	7.17	4.80	-0.06	4.74	4.02
Plumbing and heating supplies.....	16.99	3.20	2.56	6.81	4.42	0.29	4.71	7.04
Drug.....	12.36	2.38	2.61	5.45	1.92	0.89	2.81	6.68
Household appliances and electrical supplies.....	19.67	5.97	2.36	7.59	3.75	0.27	4.02	5.17

¹ Times per year—cost of goods sold divided by the average of beginning and year-end inventories.**Subsection 2.—Retail Trade**

The trend of retail trade is one of the best general indicators of the economic condition of the country. It is through retail stores that most goods are ultimately sold and such sales reflect the financial strength of the consumer except in times of short supply.

The 1951 Census established a new base of retail sales from which estimates for subsequent years are projected and to which the 1941-51 estimated sales are revised. The values of retail sales shown by province for the years 1930-54 in Table 3 and by trade for 1951-54 in Table 4 are not adjusted for price changes.

3.—Retail Trade by Province 1930-54

Year	Atlantic Provinces ¹	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia ²	Canada ³
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
1930.....	197	646	1,091	188	188	175	251	2,736
1931.....	172	558	945	153	133	134	210	2,305
1932.....	140	462	783	131	112	115	165	1,908
1933.....	129	419	735	121	103	109	157	1,773
1934.....	147	454	833	131	115	125	179	1,984
1935.....	157	473	875	139	124	137	200	2,105
1936.....	170	518	941	150	138	147	225	2,289
1937.....	199	605	1,068	165	136	165	255	2,593
1938.....	188	598	1,026	164	136	177	240	2,530
1939.....	196	602	1,039	166	154	180	242	2,578
1940.....	235	683	1,191	182	174	198	273	2,935
1941.....	279	820	1,388	193	189	228	318	3,415
1942.....	301	876	1,447	206	201	243	346	3,619
1943.....	319	913	1,488	220	219	266	362	3,786
1944.....	351	976	1,574	243	249	296	404	4,093
1945.....	387	1,081	1,774	269	279	329	455	4,573
1946.....	401	1,342	2,265	338	341	416	593	5,787
1947.....	564	1,621	2,721	407	410	504	737	6,963
1948.....	607	1,792	3,067	466	473	611	818	7,835
1949.....	734	1,872	3,294	523	538	697	874	8,532
1950.....	822	2,183	3,715	567	571	777	982	9,617
1951.....	899	2,443	4,130	610	659	854	1,100	10,693
1952.....	982	2,635	4,383	651	764	939	1,177	11,532
1953.....	1,016	2,756	4,616	677	845	987	1,228	12,126
1954.....	1,026	2,761	4,594	661	755	932	1,230	11,959

¹ Newfoundland included from 1949.² Includes the Yukon and Northwest Territories.³ Totals

are not the exact addition of the components because of the rounding of the figures.

4.—Retail Trade by Kind of Business 1951-54

Kind of Business	1951	1952	1953	1954
	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Combination grocery and meat stores.....	1,905	2,041	2,133	2,254
Meat markets.....	176	162	151	154
Country general stores.....	525	541	521	515
Department stores.....	910	991	1,025	1,060
Variety stores.....	196	214	224	231
Motor vehicle dealers.....	1,884	2,096	2,284	2,058
Garages and filling stations.....	479	507	556	559
Men's clothing stores.....	203	212	214	204
Family clothing stores.....	192	210	209	203
Women's clothing stores.....	193	210	219	212
Shoe stores.....	112	118	122	119
Hardware stores.....	228	232	249	235
Lumber and building material dealers.....	359	369	417	396
Furniture stores.....	148	188	195	191
Appliance and radio stores.....	211	253	284	279
Restaurants.....	438	468	474	456
Fuel dealers.....	233	235	225	245
Drug stores.....	249	267	282	282
Jewellery stores.....	105	115	121	117
Tobacco stores.....	79	86	88	88
Other.....	1,869	2,012	2,132	2,100
Totals, All Trades.....	10,693	11,532	12,126	11,959

Retail Chain Stores.—Sales of retail chain stores exceeded \$2,000,000,000 in 1953, continuing the consistent expansion occurring each year. The store employees of the 7,835 outlets were paid \$171,167,000 in salaries and wages. Food and beverage trades with sales of \$1,265,514,000 accounted for more than half of the total chain store business in 1953.

5.—Retail Chain Store Statistics 1930 and 1941-53

Year	Stores	Net Retail Sales	Salaries and Wages Paid to Store Employees	Stocks on Hand End of Year		Accounts Outstanding End of Year
				Stores	Warehouses	
	Av. No.	\$'000	\$'000	\$'000	\$'000	\$'000
1930.....	8,097	487,336	50,405	60,457	..	..
1941.....	7,622	639,210	57,777	68,619	20,976	38,376
1942.....	7,010	687,447	57,654	66,940	22,633	..
1943.....	6,780	703,950	58,304	67,628	22,602	15,527
1944.....	6,560	769,643	63,300	66,944	21,855	15,093
1945.....	6,580	876,209	68,196	68,247	29,013	16,368
1946.....	6,559	1,014,847	77,474	85,345	37,436	19,643
1947.....	6,716	1,177,323	91,266	105,040	43,546	31,492
1948.....	6,821	1,335,735	107,450	119,132	46,330	40,378
1949.....	6,839	1,420,081	115,903	123,696	46,755	50,001
1950.....	7,155	1,559,693	129,334	159,083	60,501	65,000
1951.....	7,846	1,775,744	153,599	186,562	60,490	53,816
1952.....	7,766	1,924,873	154,642	172,886	55,215	77,475
1953.....	7,835	2,048,228	171,167	179,704	52,096	91,538

6.—Retail Chain Store Sales by Province and by Kind of Business 1951-53

Province	1951	1952	1953
	\$'000	\$'000	\$'000
Province			
Newfoundland.....	11,279	13,697	14,281
Maritime Provinces.....	123,245	134,395	137,428
Quebec.....	359,274	398,283	422,586
Ontario.....	809,061	875,315	942,016
Manitoba.....	78,509	84,768	87,232
Saskatchewan.....	82,850	90,482	95,337
Alberta.....	120,709	131,520	143,518
British Columbia.....	182,639	189,019	200,422
Yukon and Northwest Territories.....	8,178	7,394	5,408
Canada.....	1,775,744	1,924,873	2,048,228

6.—Retail Chain Store Sales by Province and by Kind of Business 1951-53—concluded

Kind of Business	1951	1952	1953
	\$'000	\$'003	\$'000
Kind of Business			
Food and Beverage¹	1,052,980	1,176,358	1,265,514
Combination grocery and meat stores.....	619,517	708,992	779,668
Restaurants.....	31,033	32,088	34,442
Alcoholic beverage stores.....	386,987	419,791	435,538
General Merchandise (excl. department stores)¹	224,652	244,243	254,299
General stores.....	37,972	37,419	36,541
Variety stores.....	164,475	179,618	188,475
Automotive	42,638	30,079	33,413
Apparel and Accessories¹	151,710	151,826	157,421
Men's and boys' clothing and furnishings.....	25,869	25,303	24,734
Women's clothing stores.....	42,061	46,168	49,257
Family clothing stores.....	41,672	35,875	36,241
Shoes.....	38,323	41,544	43,470
Building Materials and Hardware	94,926	97,080	107,034
Furniture and Household Appliance	82,788	96,967	99,880
Other Retail Stores¹	126,051	128,321	130,662
Drug stores.....	31,267	33,476	34,805
Jewellery stores.....	31,101	36,018	38,238

¹ Includes other kinds of business not shown separately.

Operating Results of Retail Chain Stores.—The 1953 operating results of the nine selected kinds of chain stores shown in Table 7 indicate a general increase in gross profit ratios but little change in net profit as compared with 1952. Increased operating expenses in most trades offset the gain in higher gross profit ratios. The operating characteristics of food stores as compared with the other specified trades are evident from the following table.

7.—Operating Results of Retail Chain Stores for Selected Kinds of Business 1953

NOTE.—All figures except stock turnover are percentages of net sales.

Kind of Store	Gross Profit	Salaries and Wages	Occupancy	Total Operating Expenses ¹	Net Operating Profit	Net Non-trading Income	Net Profit before Income Tax Deduction	Stock Turn-over ²
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	
Grocery.....	14.96	8.35	1.19	13.80	1.16	0.38	1.54	10.26
Combination grocery and meat.....	16.50	7.41	1.00	13.26	3.24	0.28	3.52	19.67
Men's clothing.....	30.91	15.13	4.29	29.10	1.81	0.63	2.44	2.61
Women's clothing.....	31.48	12.90	4.97	26.80	4.68	0.57	5.25	5.48
Family clothing.....	31.04	16.48	3.49	29.04	2.00	0.91	2.91	2.99
Shoe.....	31.60	14.78	4.65	26.72	4.88	0.06	4.94	2.51
Variety.....	37.77	17.53	4.42	28.34	9.43	0.61	10.04	4.81
Drug.....	33.78	18.34	4.35	30.60	3.18	0.85	4.03	3.64
Furniture.....	31.73	11.98	3.35	26.45	5.33	0.32	5.65	4.05

¹ Includes salaries and wages, and occupancy.
average of beginning and year-end inventories.

² Times per year—cost of goods sold divided by the

Operating Results of Independent Retail Stores.—This biennial survey is alternated with retail chain stores and wholesale trade, both of which appear in this volume. The 1952 results of twenty trades of the independent store type were shown in the 1955 Year Book, p. 978. The 1954 results will appear in the next edition.

Motor Vehicle Sales.—Sales of new passenger cars decreased from the record year of 1953 but remained at a high level during 1954. Sales of trucks and buses were lower than in any year since 1949.

8.—Retail Sales of New Motor Vehicles 1940-54

Year	Passenger Cars		Trucks and Buses		Totals	
	No.	\$	No.	\$	No.	\$
1940.....	101,789	114,928,833	28,763	33,916,445	130,552	148,845,278
1941.....	83,650	108,907,312	34,432	43,008,207	118,082	151,915,519
1942-45.....	..	..	..	..	..	..
1946.....	77,742	120,325,496	42,302	73,003,509	120,044	193,329,005
1947.....	159,205	283,190,390	71,050	133,047,105	230,255	416,237,495
1948.....	145,655	282,903,958	75,645	156,313,030	221,300	439,216,988
1949.....	202,318	412,297,863	84,023	176,426,822	286,341	588,724,685
1950.....	324,903	661,673,944	104,792	223,995,095	429,695	885,669,039
1951.....	275,686	683,182,846	109,962	266,976,665	385,648	950,159,511
1952.....	292,095	725,167,630	108,682	277,448,211	400,777	1,002,615,841
1953.....	359,172	899,726,000	103,354	262,745,000	462,526	1,162,471,000
1954.....	310,546	797,554,000	72,082	191,964,000	382,628	989,518,000

Farm Implement Sales.—All regions except the Province of Saskatchewan registered a decrease in farm implement and equipment sales in 1953. The decrease was spread over a large variety of equipment. Sales of repair parts, which are not recorded below, amounted to \$31,818,818 in 1953, a small increase over the 1952 figure. Sales by province are shown for 1952 and 1953 in Table 9 and by type of equipment in Table 10.

9.—Farm Implement and Equipment Sales by Province 1952 and 1953

NOTE.—Values at wholesale prices.

Province	1952		1953		P.C. Change 1952-53
	Amount	P.C. of Total	Amount	P.C. of Total	
	\$		\$		
Atlantic Provinces.....	9,118,551	3.6	7,845,410	3.3	-14.0
Quebec.....	23,745,129	9.5	20,587,165	8.6	-13.3
Ontario.....	51,448,643	20.6	45,442,835	19.1	-11.7
Manitoba.....	31,578,047	12.6	28,030,312	11.8	-11.2
Saskatchewan.....	75,859,527	30.3	80,333,503	33.7	+ 5.9
Alberta.....	53,505,361	21.4	51,302,523	21.6	- 4.1
British Columbia.....	5,021,983	2.0	4,508,606	1.9	-10.2
Totals.....	250,277,241	100.0	238,050,354	100.0	- 4.9

10.—Farm Implement and Equipment Sales in Canada and in the Prairie Provinces by Type 1952 and 1953

NOTE.—Values are mainly at wholesale prices.

Type	Canada			Prairie Provinces			
	1952	1953	P.C. Change 1952-53	1952	1953	P.C. Change 1952-53	P.C. of Canada Total, 1953
	\$	\$		\$	\$		
Planting, seeding and fertilizing machinery.....	9,150,510	8,130,425	-11.1	4,448,216	4,097,958	-7.9	50.4
Ploughs.....	18,234,921	16,870,246	-7.5	13,989,013	13,965,869	-0.2	82.8
Tilling, cultivating and weeding machinery.....	10,137,619	10,696,349	+5.5	5,903,720	7,383,956	+25.1	69.0
Haying machinery.....	17,230,060	19,787,111	+14.8	5,965,558	9,056,620	+51.8	45.8
Harvesting machinery.....	74,336,442	69,579,783	-6.4	65,041,763	60,751,774	-6.6	87.3
Machines for preparing crops for market or use.....	11,324,459	7,716,401	-31.9	6,780,491	5,084,309	-24.8	65.9
Tractors and engines.....	89,991,854	85,261,224	-5.3	52,897,416	53,206,518	+0.6	62.4
Spraying and dusting equipment.....	1,688,363	1,901,608	+12.6	850,370	867,983	+2.1	45.6
Farm wagons, trucks and sleighs.....	2,690,525	2,242,977	-16.6	1,221,104	945,201	-22.6	42.1
Water systems and pumps.....	6,202,934	6,605,219	+6.5	1,379,605	1,626,224	+17.8	24.6
Dairy machinery and equipment.....	3,010,878	3,566,767	+18.5	717,762	840,846	+17.1	23.6
Barn equipment.....	3,115,541	2,281,413	-26.8	675,499	519,763	-23.1	22.8
Poultry farm equipment.....	454,845	654,836	+44.0	186,428	137,738	-26.1	21.0
Miscellaneous farm equipment.....	2,708,290	2,755,995	+1.8	905,990	1,181,579	+30.4	42.9
Totals.....	250,277,241	238,050,354	-4.9	160,942,935	159,666,338	-0.8	67.1

Sales Financing.—Financing of retail instalment sales decreased in 1954 as compared with 1953, both consumer and commercial and industrial sectors contributing to the drop. Balances outstanding at the close of the year were also lower as is shown in Table 11. Motor vehicle sales and financing are given in Table 12 where it is shown that approximately the same proportion of vehicles were financed in 1954 as in the two previous years.

11.—Retail Instalment Paper Purchased and Balances Outstanding by Class of Goods and Province 1941, 1951, 1953 and 1954

(Millions of Dollars)

Item	Paper Purchased				Balances Outstanding Dec. 31—			
	1941	1951	1953	1954	1941	1951	1953	1954
Province								
Atlantic Provinces.....	7	34	73	67	4	23	53	54
Quebec.....	16	102	195	182	10	71	146	145
Ontario.....	48	177	379	327	30	114	274	258
Manitoba.....	5	24	44	31	3	16	33	27
Saskatchewan.....	6	29	52	36	5	20	40	33
Alberta.....	9	55	119	85	6	39	93	76
British Columbia.....	9	46	81	66	7	30	58	54
Totals, Retail Financing.....	100	467	943	794	65	313	697	647
Class of Goods								
Consumer Goods.....	77	299	714	620	49	186	512	483
New passenger cars.....	23	114	252	231	..	80	195	193
Used passenger cars.....	44	141	321	269	..	80	216	195
Radio and television.....	2	5	38	43	..	3	29	35
Household appliances.....	5	15	64	44	..	9	46	36
Furniture.....	1	4	14	11	..	3	10	9
Other.....	3	20	25	22	..	11	18	15
Commercial and Industrial.....	23	168	229	174	16	127	185	164
New commercial vehicles.....	11	82	90	61	..	64	78	63
Used commercial vehicles.....	7	46	63	50	..	31	46	41
Other.....	5	40	76	63	..	32	61	60

¹ Included with "Other".

**12.—Sales and Financing of New Motor Vehicles (Passenger and Commercial)
1941 and 1946-54**

Year	Motor Vehicles Sold	Motor Vehicles Financed	P.C. of Total Sales Financed		Average Financed Value
			Number	Value	
	No.	No.		\$	\$
1941.....	118,082	41,032	34.7	23.0	850
1946.....	120,044	22,866	19.0	14.5	1,224
1947.....	230,255	46,700	20.3	15.7	1,401
1948.....	221,300	51,867	23.4	16.8	1,423
1949 ¹	286,341	81,502	28.5	19.6	1,417
1950.....	429,695	135,304	31.5	21.6	1,415
1951.....	385,648	126,255	32.7	20.1	1,514
1952.....	400,777	172,587	43.1	29.2	1,695
1953.....	462,526	189,052	40.9	29.4	1,810
1954.....	382,628	154,104	40.3	29.5	1,897

¹ Newfoundland included from 1949.

Retail Consumer Credit.—The 1951 Census provided a new base for credit data and serves three purposes: as the measurement of credit to which previous estimates should be revised; as the benchmark from which to project current estimates; and as a new universe from which to select a new sample of stores. Estimates based on that new sample are in course of tabulation at time of writing. The figures in Table 13 are calculated on the former sample revised to the 1951 Census base and may be revised again depending on the extent to which the new and the old sample trends differ.

13.—Retail Consumer Credit 1951-54 and by Kind of Business 1954

Period and Kind of Business	Sales				Accounts Receivable (at end of period)		
	Cash	Instal- ment	Charge	Total	Instal- ment	Charge	Total
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
1951.....	7,202.6	951.9	2,538.6	10,693.1	126.4	419.5	545.9
1952.....	7,439.1	1,460.3	2,632.7	11,532.1	245.1	456.4	701.5
1953.....	7,830.7	1,606.0	2,680.1	12,125.8	286.2	493.3	779.5
1954—							
January-March.....	1,622.0	313.2	595.6	2,530.8	276.4	452.0	728.4
April-June.....	2,036.7	422.4	694.8	3,153.9	291.7	464.5	756.2
July-September.....	2,004.0	380.3	659.4	3,043.7	289.3	464.4	753.7
October-December.....	2,143.4	351.4	736.0	3,230.8	319.0	504.7	823.7
Kind of Business							
Department stores.....	673.4	162.8	223.8	1,060.0	114.5	69.1	183.6
Motor vehicle dealers.....	717.3	854.6	486.1	2,058.0	39.0	71.5	110.5
Men's clothing stores.....	142.5	6.2	55.4	204.1	1.9	13.4	15.3
Family clothing stores.....	144.6	8.0	50.5	203.1	2.9	17.2	20.1
Women's clothing stores.....	163.9	5.3	42.9	212.1	1.7	10.7	12.4
Hardware stores.....	141.2	9.3	85.0	235.5	2.2	21.0	23.2
Furniture stores.....	61.8	88.4	40.7	190.9	46.5	12.3	58.8
Household appliance and radio stores..	92.7	135.6	51.1	279.4	54.8	13.9	68.7
Jewellery stores.....	69.9	23.1	24.5	117.5	12.6	6.4	19.0
Grocery and combination stores (independent).....	1,037.3	—	350.4	1,387.7	—	38.4	38.4
General stores.....	344.0	—	171.1	515.1	—	28.8	28.8
Fuel dealers.....	69.9	—	175.4	245.3	—	31.0	31.0
Garages and filling stations.....	421.4	—	137.7	559.1	—	22.9	22.9
All other trades.....	3,726.2	174.0	791.2	4,691.4	42.9	148.1	191.0

Subsection 3.—Service Establishments

Service establishments as defined in the Census of Distribution include all those places of business whose major source of gross income (annual turnover) was derived from the rendering of services as opposed to the sale of merchandise. The following types of service were covered: amusement and recreational such as motion picture theatres and bowling alleys; personal services such as laundries and dry cleaning plants, barber shops and shoe repair shops; certain business services such as advertising agencies and window display services; repair services such as automobile repair, radio repair and watch repair; burial services; photography, commercial and portrait; hotels and tourist camps; and other services such as cold storage locker rentals and taxis.

Summary statistics of the detailed coverage in 1951 are given in the 1955 Year Book at pp. 974-977. Annual data for certain services only are included here.

Theatres.—The receipts of motion picture theatres, which had been increasing steadily up to 1953, registered a drop in 1954, most of which was accounted for by lower receipts of regular theatres in Ontario. All other provinces, except Quebec and New Brunswick, reported increases in this comparison. Drive-ins have shown the greatest development among the theatres in recent years. It is interesting to note that, while in 1949 there were 30 such establishments with receipts of \$1,393,760, in 1954 the number had increased to 230 with receipts of \$6,316,947. Community establishments increased from 469 to 645 in the same comparison.

14.—Motion Picture Theatres and Receipts by Province 1950-54

NOTE.—Figures include, in addition to regular theatres, establishments in which motion picture entertainment is provided by community organizations such as churches, lodges, Boards of Trade, etc., as well as drive-in theatres. Halls serviced by itinerant operators are not included. Receipts are exclusive of amusement taxes.

Province	1950		1951		1952		1953		1954	
	No.	\$	No.	\$	No.	\$	No.	\$	No.	\$
Newfoundland.....	63	916,634	71	1,202,077	86	1,269,248	104	1,321,390	115	1,475,567
P. E. Island.....	18	293,807	17	323,413	17	348,887	16	359,162	22	427,680
Nova Scotia.....	85	3,269,653	86	3,475,104	88	3,772,822	92	4,364,824	97	4,543,668
New Brunswick....	66	2,064,199	71	2,320,390	72	2,618,307	76	2,898,430	79	2,872,828
Quebec.....	583	21,644,261	617	23,043,006	646	25,449,414	654	25,989,955	639	23,066,057
Ontario.....	609	35,557,030	625	40,139,582	644	42,806,986	658	42,253,374	645	39,847,466
Manitoba.....	166	4,426,997	165	4,897,805	175	5,235,192	194	5,610,673	198	5,773,354
Saskatchewan.....	391	4,001,268	387	4,386,055	386	5,345,231	415	5,711,955	435	6,270,287
Alberta.....	262	5,831,685	274	6,650,644	275	7,754,465	300	8,810,223	319	9,780,059
British Columbia ¹ ..	206	8,244,218	209	9,395,264	215	10,363,047	240	11,283,980	264	11,072,915
Canada.....	2,449	86,249,752	2,522	95,833,340	2,604	104,963,599	2,749	108,603,966	2,813	105,129,881

¹ Includes the Yukon and Northwest Territories.

15.—Summary Statistics of Motion Picture Theatre Operations 1953 and 1954

Item	Regular Theatres	Drive-in Theatres	Community Enterprises	Itinerant Operators	Total
1953					
Establishments.....	No. 1,906	174	669	805	3,554
Receipts (excluding taxes).....	\$ 100,889,361	5,862,920	1,851,685	468,562	109,072,528
Amusement taxes.....	\$ 12,760,235	685,389	105,057	31,859	13,582,540
Paid admissions.....	No. 241,182,726	11,134,788	5,647,668	1,381,655	259,346,837
1954					
Establishments.....	No. 1,938	230	645	658	3,471
Receipts (excluding taxes).....	\$ 97,012,140	6,316,947	1,800,794	385,682	105,515,563
Amusement taxes.....	\$ 12,098,922	721,630	128,515	26,189	12,975,256
Paid admissions.....	No. 218,508,653	12,380,246	5,269,925	1,106,070	237,264,894

Power Laundries, Dry Cleaning and Dyeing Plants.—A record of the value of work performed by power laundries and cleaning and dyeing establishments during the five years 1949-53 is given in Table 16, together with other basic data on operation.

16.—Summary Statistics of Power Laundries, Dry Cleaning and Dyeing Plants 1949-54 and by Province 1954

Year and Province	Plants	Em- ployees	Salaries and Wages	Cost of Materials	Value of Work Performed
POWER LAUNDRIES					
	No.	No.	\$	\$	\$
1949.....	332	14,240	20,408,336	4,485,436	38,659,596
1950.....	323	14,310	20,976,430	4,811,682	40,586,942
1951.....	317	14,079	22,248,517		44,053,442
1952.....	307	13,922	24,496,053	6,143,769	46,852,690
1953.....	310	14,164	25,801,841	6,511,296	49,120,933
1954					
Newfoundland and Prince Edward Island.....	5	92	110,596	22,566	251,648
Nova Scotia.....	12	381	602,898	129,867	1,244,044
New Brunswick.....	12	414	634,952	131,237	1,229,706
Quebec.....	73	4,303	7,817,232	1,329,054	14,635,291
Ontario.....	115	4,860	9,290,349	1,597,397	17,845,916
Manitoba.....	8	509	1,019,447	191,505	1,824,733
Saskatchewan.....	10	301	635,357	151,284	1,318,521
Alberta.....	19	850	1,647,338	359,692	3,083,088
British Columbia, Yukon and N.W.T.....	45	2,044	4,877,477	753,069	9,080,295
Canada, 1954.....	299	13,754	26,635,646	4,665,671	50,513,242
DRY CLEANING AND DYEING PLANTS					
	No.	No.	\$	\$	\$
1949.....	905	12,886	20,107,095	4,939,685	42,574,449
1950.....	919	13,450	21,704,698	5,378,564	46,249,622
1951.....	981	13,933	23,850,119		52,798,415
1952.....	991	14,816	27,148,924	6,710,355	58,478,419
1953.....	1,029	15,234	29,898,356	7,255,050	64,029,307
1954					
Newfoundland and Prince Edward Island.....	17	296	551,046	133,159	1,160,341
Nova Scotia.....	42	608	1,006,257	247,112	2,145,592
New Brunswick.....	33	310	506,110	158,918	1,270,709
Quebec.....	199	3,424	6,805,807	1,669,199	14,493,781
Ontario.....	485	6,735	13,921,958	3,314,944	29,732,129
Manitoba.....	47	1,175	2,528,176	529,225	4,731,783
Saskatchewan.....	71	632	1,338,505	324,613	3,123,547
Alberta.....	101	1,132	2,201,515	549,937	4,990,925
British Columbia, Yukon and N.W.T.....	112	1,173	2,653,337	608,325	5,574,023
Canada, 1954.....	1,107	15,485	31,512,711	7,535,432	67,222,831

Advertising Agencies.—Table 17 records the growth of business done by advertising agencies during 1954 as compared with the four previous years.

17.—Summary Statistics of Advertising Agencies 1950-54

Item	1950	1951	1952	1953	1954
Billings.....	\$ 96,220,544	108,413,585	121,666,983	144,339,308	156,163,289
Commissionable billings.....	\$ 96,696,600	107,461,762	120,628,827	142,957,916	154,467,023
Other.....	\$ 653,944	951,823	1,038,156	1,381,392	1,696,261
Gross revenue.....	\$ 15,012,672	17,015,496	19,060,261	22,591,718	24,579,169
Distribution of billings—					
Publications.....	p.c. 59.6	59.3	59.9	59.1	56.4
Other visual.....	p.c. 5.7	5.2	4.5	4.2	4.5
Production, artwork, etc.....	p.c. 18.5	18.0	17.1	17.4	17.3
Radio.....	p.c. 16.1	17.3	17.6	18.7	15.4
Television.....	p.c. }				5.5
Other.....	p.c. 0.1	0.2	0.9	0.6	0.9

Hotels.—In 1954 there were 5,208 hotels in operation in Canada, 4,161 of them full-year hotels and 1,047 seasonal hotels. Table 18 shows the provincial distribution of these establishments, together with the sources of their revenue.

18.—Hotels and their Receipts by Source 1950-54 and by Province 1954

Year and Province	Hotels	Rooms	Receipts				
			Rooms	Meals	Beer, Wine and Liquor	All Other Sources	Total
	No.	No.	\$'000	\$'000	\$'000	\$'000	\$'000
1950.....	5,169	146,353	75,842	58,586	162,815	25,147	322,390
1951.....	5,092	146,441	83,322	63,440	180,642	29,878	357,282
1952.....	5,157	140,615	89,879	67,269	201,759	33,029	391,936
1953.....	5,209	149,653	93,914	70,974	209,984	35,843	410,715
1954							
Newfoundland.....	27	796	769	600	680	242	2,291
Prince Edward Island.....	26	719	313	244	—	48	605
Nova Scotia.....	146	3,915	2,910	2,557	399	652	6,518
New Brunswick.....	100	3,276	2,083	1,392	—	463	3,938
Quebec.....	1,545	40,376	23,569	18,794	48,165	8,075	98,603
Ontario.....	1,546	46,566	30,562	27,594	62,248	12,164	132,568
Manitoba.....	289	8,008	4,569	2,543	19,046	2,151	28,309
Saskatchewan.....	526	11,651	5,875	3,469	24,299	3,022	36,665
Alberta.....	453	14,620	10,667	6,532	27,608	4,869	49,676
British Columbia.....	550	18,963	12,777	7,104	22,110	4,692	46,683
Totals, 1954.....	5,208	148,890	94,094	70,829	204,555	36,378	405,856

Section 2.—The Marketing of Agricultural Products

The following special article, prepared by the Marketing Service of the Department of Agriculture, covers the general movement of farm-produced foods from producer to consumer, with the exception of the grain trade which is dealt with separately in Subsection 1. Livestock marketings, treated briefly in the article, are covered in greater detail in Subsection 2.

MARKETING FARM-PRODUCED FOODS

A constantly widening choice of farm-produced foods, either fresh, canned, frozen or otherwise processed, is available to the Canadian consumer. Through the medium of research and experimentation in such fields as plant and animal breeding, soil fertilization, insect and disease control, and work methods, producers are able to supply more desirable kinds and varieties of products to meet specific needs and preferences of the fresh market and of processors. Also, improved methods of storage and transport have made the various kinds of farm-grown perishables, in suitable fresh or processed forms, widely available through most of the year. These, together with imports, provide a much steadier supply and a greater variety than in past years.

The marketing trend during the present century has been to shift increasingly difficult procedures from the farmer to the specialist. Well qualified and equipped packing plants, boards, agencies, etc., are today playing a major role in the preparation and distribution of agricultural food products. While this trend may have resulted in higher marketing costs it has also been productive of superior quality products, and costs to the consumer may well be moderate in relation to value received.

The current trend in the collection and centralization of farm products at processing or packing points has often resulted in fewer plants; as exemplified by large dairy plants replacing local cheese factories and creameries and by the establishment of packing plants in commercial production areas. Purchase from farmers on a graded basis is widespread

and the grading is often carried through to the consumer. Many products are moved from farms by truck, rail movement having been largely replaced for such items as milk and cream and for most of the livestock. On the other hand the railways, by the introduction of improved refrigerator cars and faster, more reliable schedules, have met the needs for the rapid and often long haul of perishable fresh and processed products. However they have had to share the growing traffic with refrigerated and other heavy trucks for hauls of all distances, but particularly short and intermediate movements.

A practice closely associated with transportation is pre-cooling of fruits and vegetables to be shipped fresh or to be stored. Of a similar nature is the pre-heating of cars or trucks for winter transport. Optimum temperatures for shipment and storage have been experimentally determined and the practices of shippers modified as necessary. The Canadian climate, with its short growing season and rigorous winter, makes it necessary to store some home-grown farm products and also certain products imported from distant growing areas. The increase in cold storage cubic capacity in the period 1948 to 1953 was about 25 p.c. The rate of growth for freezer space was higher than for cooler space, reflecting the increasing demand for frozen foods in processing and also for home consumption.

The wholesaling of food has been characterized recently by a tendency for integration with retailing and even with processing. That is, chain retailers have provided their own wholesale facilities in each large city—a co-ordinated food receiving and shipping plant. Some of the chains control farm-product processing plants organized to fill the needs of the chain outlets.

The comparatively recent development of the self-service type of retail store has revolutionized retail merchandising and has been responsible directly or indirectly for other trends such as consumer-size packaging and open refrigerated display cases. At one time self-service was generally considered to be impractical for produce and meat departments largely because of the lack of suitable packaging material that would also enable the prospective purchaser to see the contents. The introduction of transparent film in 1924 was a milestone in food merchandising and since then the improvements and refinements in both the material and in packaging techniques have resulted in its application to a great variety of agricultural food products. Further impetus was given to the self-service trend in retail stores by rising wage scales and the shortage of labour in the immediate post World War II years. The large staff required for the maintenance of bulk displays and individual selection and packaging for the customer has been substantially reduced by prepackaging. From the consumer's point of view the prepackaged product facilitates shopping and has established new standards in sanitation and cleanliness. It also enables the purchaser to identify the product by brand or trade name and by grade. Superior quality merchandise properly identified attracts repeat business while inferior quality can be recognized and rejected. Another advantage to the consumer is the fact that many commodities are trimmed and washed and excess parts of the product discarded.

While the self-service principle has been applied primarily by the larger chain organizations it is employed in modified form by many independent retailers and those in smaller communities. It should be mentioned that despite the rapid development of chain stores of various kinds in urban areas in recent years the independents continue to account for the greater volume of sales. The proportion in 1955 was 59 p.c. compared with 67 p.c. in 1949. Credit is not generally available at chains and for this and reasons of convenience the independent retailer continues to be popular.

Steadily increasing population and rising income levels in the war and postwar years have resulted in a greater demand for the constantly widening variety of foods in new forms which producers, processors and marketing agencies have to offer. These population and income considerations, together with technological developments, have made possible a substantial shift in food preparation from the kitchen to the factory. The reduction in time required for home food preparation together with the desire to attain a higher standard of living have induced many married women to secure employment outside the home. Kitchen shortcuts are of obvious value to such families.

DAIRY PRODUCTS

New methods of marketing milk and dairy products have affected the process of marketing from the farm through to the retail store. Today the farmer ships his cans of milk direct to the factory or city milk plant by truck, whereas formerly they were taken from the farm by wagon, perhaps to be transferred later to a milk train if they were to be sent long distances. The latest transportation development relieves the farmer still further by eliminating cans entirely. In a few areas tank trucks visit farms daily and siphon milk directly from large tanks installed by the farmer. Tank trucks have also come into use to move milk between dairy factories.

Improvement in methods of transportation has been one of the major reasons for the increase in the size of dairy factories, permitting them to draw milk from larger areas than formerly. The growth of large centres of population has been a contributory cause, especially in the increase in size of city dairies. Another factor tending to increase the size of dairy factories is that much of the modern manufacturing equipment can be used economically only by factories that receive milk in large quantities. The spray process of drying milk is replacing the older roller process. Spray powder is better for many purposes than roller powder and spray driers usually have a larger capacity than roller driers, so the size of milk powder plants has tended to increase. The continuous butter-making process, by which cream fed into one end of a complex machine emerges as neat one pound prints at the other, has been recently installed in several Canadian factories. The continuous butter-making machines can be used to best advantage only in plants receiving considerable quantities of cream.

Improvement of quality has been an important factor in the modernization of the marketing of dairy products. Pasteurization of fluid milk has been practised more generally over the years. "Flash" pasteurizers have been developed which do not affect milk flavour as did the older types. Quality of butter, cheese and concentrated products has come under close scrutiny by governments and the dairy industry, and government grade designations have become widely accepted as indications of high quality.

In addition to improving the quality of its products, the dairy industry has served the consumer by giving him a greater variety from which to choose. Process cheese, a product made by grinding cheddar cheese and treating it with other ingredients, has become increasingly popular as have cheese spreads which can be applied easily to bread or crackers and double as cheese sauce when heated.

For many years scientists have been looking for products which have all the desirable qualities of fresh milk but which can be more easily transported and stored. Although no completely satisfactory substitute for fresh milk has yet been developed considerable progress has been made. In the past year or so, 'instant' dry skimmed milk products have appeared on the market. 'Instant' powder can be rapidly converted to liquid skimmed milk by adding water and stirring. In the powder form, the product can be stored without refrigeration. Evaporated milk has also shared as a replacement for the fresh product in areas where fluid milk is not readily obtainable and is also widely used for feeding infants. Canadians use more evaporated milk per capita than the people of any other country.

Perhaps the most striking changes of all, from the point of view of the consumer, are those that have occurred in the merchandising of dairy products in retail stores. Gleaming counters filled with light weight disposable cartons of milk, attractively packaged butter, and an assortment of cheeses beyond the imagination of consumers of a decade ago, are a familiar sight and a welcome one to the busy housewife intent on providing her family with a variety of good foods.

LIVESTOCK AND MEATS

Canada continues to produce a plentiful supply of meats, providing for a fairly high domestic consumption with a surplus for export, although the latter is gradually diminishing as the population increases.

Increasing transportation costs and the development of refrigeration have tended to reduce the shipment of live animals to distant markets. It is more economical to slaughter the animals close to the production area and ship the surplus product to deficit areas. The same factors are tending toward some decentralization of the packing industry. There is less country slaughter, more of the meat supplies for small towns and villages being delivered under refrigeration from inspected plants.

Prepackaging of meat before it reaches the retail counter is a trend well under way. The wrapping films now in use have been developed mostly since 1945. A growing proportion of all meats are retailed on a self-service basis but frequently in the same store there is a choice between self-service or butcher service. This type of merchandising is offered mainly in chain stores and in other large city stores. The constantly increasing consumer demand for ready-to-serve foods has resulted in the appearance of a great variety of canned and otherwise processed meat and meat products.

POULTRY AND EGGS

The poultry industry is rapidly assuming the characteristics of a manufacturing business. Improvements in housing, nutrition, breeding and management practices of this industry have reduced the need for poultrymen to tie production to any season of the year. Natural production cycles, peak egg production and hatchings in the spring and the growth of young chickens in summer and autumn still persist, but most commercial poultrymen are now offsetting the marketing disadvantages of these cycles.

Although commercial egg marketings were about the same in 1945 as in 1954, there was a marked difference in the regularity of supply. In 1945 April marketings were four times larger than in October when production was at a seasonal low. In 1954 however marketings were more uniformly distributed throughout the year as illustrated by the fact that production in April was only one-quarter more than in August, which had become the low month.

The poultry meat supply pattern has been levelled out by the development of the broiler business in Canada. Broilers are light weight meat-type chicken marketed throughout the year at the age of ten to twelve weeks, weighing $3\frac{1}{2}$ lb. live weight. White breed turkeys, aged about three months, are also marketed throughout the year and weigh 7 to 8 lb. With the more regular supply of fresh poultry throughout the year, the cold storage holding of poultry and shell eggs is becoming less important and variation in price during the season is less pronounced; both of these trends have consumer appeal. The variation of Grade A Large egg prices has been reduced by more than one-third in recent years, and prices of broilers vary little throughout the year, which in turn tempers the price variation for other kinds of poultry.

Most eggs receive no processing but are sorted for quality and size before being packed in cases or cartons by producers or market agencies and sold as shell eggs. A small portion of these shell eggs intended for cold storage is dipped in a tasteless, odorless oil to help preserve quality but the tendency is for an increasing proportion of the shell eggs to move more directly from producer to the retail outlet through fewer handlers. Fewer storage eggs are reaching retail outlets. Instead surplus eggs are being broken for use as frozen egg and dried egg. Eggs in these forms, used chiefly by bakeries, confectioners and producers of dry cake mixes, enter households in forms unrecognized by consumers.

Changes in marketing poultry meat have been more spectacular than with eggs. Ten years ago poultry was commonly marketed only in the dressed form (blood and feathers removed). Although this form of marketing still dominates the poultry meat industry in Canada the development of the broiler industry is rapidly bringing about a change. Broilers are marketed in the ready-to-cook form either as whole chicken or in parts and as a result increasing quantities of heavy poultry are being sold in the ready-to-cook form. Large numbers of fowl are also being canned whole.

Increased domestic consumption of poultry products in recent years is largely attributable to the changes in production and marketing. Egg consumption has increased on a per capita basis as well as with population growth and the per capita consumption of poultry has gone up slightly more than one-third in the past few years. Poultry in Canada is no longer a Sunday treat but has become an everyday dish.

FRUITS AND VEGETABLES

Marketing of fruit and vegetable crops has been modernized by the use of new techniques in packaging, transportation, refrigeration and processing, particularly by freezing. Rapid movement by rail and truck and occasionally by air, plus temperature control, have enabled highly perishable fresh fruits and vegetables to move from one end of the continent to another at any season of the year. With this development the seasonal supply nature of many crops has virtually disappeared and consumers in the more northerly sections are no longer limited to short local seasonal production. Modern storage and transport facilities also tend to assist in distribution and thus aid in maintaining a balance of supply. This directly benefits the consumer by preventing abnormally high prices in areas or at times when local shortages occur.

The railway refrigerator car has long been important in moving fresh fruits and vegetables to market. Besides icing the bunkers for cool air circulation around the shipment it had been the practice to 'top ice' lettuce and other crops that wilt quickly. A new 'vacuum pack' process now rapidly cools lettuce packed in cartons instead of wooden crates, after which it is promptly placed in refrigerated cars or trucks and requires only regular bunker ice to its destination. In the car that previously took 24,000 lb. of crate lettuce, 30,000 lb. of carton vacuum-packed lettuce may now be carried. Washing and sometimes waxing of fruits and vegetables now contribute to good appearance and keeping qualities.

The most recent and dramatic development in processing has been in fast frozen foods. By this method fruits and vegetables, the latter after a two minute steam blanching, are subjected to temperatures of -30°F. to -40°F. until hard frozen and then immediately placed in storage at 0°F. to -10°F. Fruit may be frozen in its natural state but sugar is usually added to enhance the flavour. This process has gained considerable impetus in recent years with the development of home freezers and food plants together with increased frozen food capacity in newer models of home refrigerators. Frozen products require low temperatures at all stages of distribution, a limiting factor in distribution at the retail level which is rapidly being overcome. Frozen food cabinet space in retail outlets, particularly in the new supermarket type of stores in urban areas, has greatly expanded. Smaller retail stores and those in smaller communities are gradually installing the necessary equipment and the difficulties of delivery in small lots to serve such stores are gradually being overcome. The choice in frozen foods is also being constantly enlarged.

Another aspect of the frozen food industry of indirect concern to the consumer is the extent to which quick freezing is being utilized to store products for eventual use in manufacture. For instance in the manufacture of strawberry and raspberry jams, the use of fruit preserved by the former SO_2 process is no longer permitted; this chemical preservation process has been replaced to a large extent by freezing. In the manufacture of soups, frozen vegetables have entirely replaced vegetables in brine. Production of frozen fruits and vegetables in 1954 for all purposes, plus imports, approximated 20,000 tons or seven times the volume of ten years ago.

Constant improvements are being made in the long established preservation technique of canning. The time lag between harvesting and processing is being steadily reduced by improved mechanical devices and methods. This results in retention of flavour and improvement in appearance of the finished product. The vacuum pack method for corn is typical; the process is quicker and hotter and the product tastier and more attractive to the eye. High temperature flash pasteurization of tomato juice has improved flavour and keeping qualities.

The baby food section of the canning industry has expanded greatly and a wide variety of such products is now available. Production of 26,462 tons of canned infant foods in 1954 was nearly six times the output of ten years earlier. Another interesting development in canning is the increase in production of canned pet foods. The output of canned dog and cat food in 1954 amounted to 42,881 tons compared with only 59 tons ten years ago.

Dehydration, employed quite extensively during the war years for the Armed Forces to reduce bulk, is no longer used to the same extent as a method of preservation for fruits and vegetables. Dehydrated onions, usually in the form of powder, and apples are the

only two products of any importance today, although dehydrated soups continue to be fairly popular. A combination of dehydration and freezing is used for citrus juices sold in frozen concentrated form. Concentrated but not frozen tomato juice is also a new product on the Canadian market.

FOOD CONSUMPTION

In examining levels of food consumption as marketing methods have been improved, it is necessary to look at trends for various kinds of food. The more perishable foods and the so-called 'protective' foods supply proteins and vitamins to the human body. Bulk foods and starchy foods have a necessary place in a good diet but tend to be cheaper. A better diet based on sustained good income and more effective production and merchandising methods might be expected to emphasize meats, fruits and vegetables, and some dairy products while per capita consumption of cereals, potatoes and sugars would tend to decline. National per capita averages of consumption since 1950 moreover do indicate an upward trend for meats, fruits, poultry and eggs. Cereal consumption has declined from year to year, and irregular declines have occurred also for potatoes, sugars and syrups. Milk and cheese consumption has been slightly upward.

Subsection 1.—The Grain Trade

Marketing Problems and Policies 1954-55

Production, marketings and exports of the five major Canadian grains in 1954-55 were down from the unusually high levels of the three preceding crop years. Adverse weather and probably the worst rust epidemic on record in western Canada were largely responsible for the sharp reduction in outturn of the 1954 grain crop. Despite the relatively low yields of western grain crops in 1954 the pressure on Canada's grain storage and handling facilities remained unrelieved during the 1954-55 crop year. Record farm stocks of wheat, barley and rye and next-to-record farm stocks of oats and flaxseed at July 31, 1954 provided an unprecedented farm carryover of old-crop grain for the end of a crop year. As a result of the unusually tight storage position the Canadian Wheat Board had to keep under continuous review the situation with respect to the provision of adequate supplies of the various grains at the right time and in the desired positions to meet both domestic and export commitments. At the same time the Board endeavoured to ensure all producers the opportunity of delivering grain in as equitable a manner as possible. As in recent years, marketing arrangements for wheat, oats and barley in western Canada in 1954-55 continued under the system of compulsory crop-year pools administered by the Board. Other grains in western Canada and all grains in eastern Canada continued to be sold on the open market.

At the beginning of the 1954-55 crop year the Board established an initial delivery quota of 100 units, each being the equivalent of 3 bu. of wheat or 8 bu. of oats or 5 bu. of barley or 5 bu. of rye. As conditions permitted, individual shipping points were transferred from initial to general quotas, under which producers were permitted, as in 1953-54, to deliver a certain number of bushels per 'specified' acre, the specified acreage consisting of the permit holder's acreage seeded to wheat (other than Durum), oats, barley and rye plus his acreage in summerfallow in 1954. General delivery quotas were gradually increased from 2 to 8 bu. per specified acre at individual stations as space became available, with all except 28 closed stations being on the 8 bu. quota by July 27, 1955.

Preliminary data indicate that total marketings of the five major grains in western Canada in 1954-55 amounted to about 524,600,000 bu. compared with 608,300,000 bu. in 1953-54 and the ten year (1944-45-1953-54) average of 561,200,000 bu. Combined exports of the same grains, which include wheat flour, rolled oats and oatmeal, malt and pot and pearl barley in grain equivalent, totalled 370,700,000 bu. as against 441,500,000 bu. in 1953-54 and the ten year average of 380,700,000 bu. Mainly as a result of the smaller 1954 crop, year-end stocks of grains showed a substantial drop from the record July 31, 1954 levels. Combined stocks of the five major grains in all positions at July 31, 1955 were estimated at 694,900,000 bu., a drop of 22 p.c. from the previous year's record 895,200,000 bu. but 89 p.c. above the ten year average of 363,700,000 bu.

19.—Supply and Disposition of Canadian Grain, Crop Years Ended July 31, 1954 and 1955

(Millions of bushels)

Item	Wheat	Oats	Barley	Rye	Flaxseed
Crop Year 1953-54					
Carryover, Aug. 1, 1953.....	383.2	144.4	111.7	16.2	3.9
Production in 1953.....	614.0	407.0	262.1	28.8	9.9
Imports ¹	0.5	²	²	²	²
Totals, Supply.....	997.6	551.4	373.7	45.0	13.9
Exports ¹	255.1	70.7	93.7	16.8	5.2
Domestic Use.....	140.8	354.9	134.1	8.9	6.1
Human food.....	46.4	4.8	0.3	0.2	²
Seed requirements.....	34.2	25.0	13.3	1.0	0.7
Industrial use.....	²	—	12.7	0.8	3.8
Loss in handling.....	0.2	0.1	0.1	0.2	²
Animal feed and waste.....	60.1	324.9	107.7	6.6	1.6
Totals, Disposition.....	395.9	425.6	237.8	25.7	11.3
Crop Year 1954-55					
Carryover, July 31, 1954.....	601.7	125.8	145.9	19.3	2.6
Production in 1954.....	308.9	306.8	175.5	14.2	11.2
Imports ¹	0.2	²	²	²	²
Totals, Supply.....	910.8	432.6	321.4	33.5	13.8
Exports ¹	251.9	22.2	80.9	9.3	6.3
Domestic use.....	159.1	326.8	150.2	5.6	6.3
Totals, Disposition.....	411.0	349.0	231.0	14.9	12.6
Carryover, July 31, 1955.....	493.7	83.6	90.4	18.6	1.2

¹ Import and export data for wheat, oats, barley and rye respectively include flour in terms of wheat, rolled oats in terms of oats, malt in terms of barley and rye flour in terms of rye.

² Less than 50,000 bu.

Wheat.—Supply and Disposition.—Stocks of wheat on hand at the beginning of the 1954-55 crop year amounted to a record 601,700,000 bu., representing the sixth consecutive annual increase from the unusually low level of 77,700,000 bu. on hand at July 31, 1948. Total crop-year supplies, consisting of the record carryover, the 1954 crop of 308,900,000 bu. and imports of 200,000 bu., amounted to 910,800,000 bu., the fourth highest on record.

20.—Production, Imports, Exports and Domestic Use of Wheat, Crop Years Ended July 31, 1949-55

(Millions of bushels)

Item	1948-49 [†]	1949-50 [†]	1950-51 [†]	1951-52 [†]	1952-53 [†]	1953-54 [†]	1954-55
Carryover, Aug. 1.....	77.7	102.4	112.2	189.2	217.2	383.2	601.7
Production.....	381.4	366.0	466.5	553.6	701.9	614.0	308.9
Imports ¹	0.3	²	²	²	²	0.5	0.2
Totals, Supply.....	459.4	468.4	578.7	742.9	919.1	997.6	910.8
Exports ¹	232.3	225.1	241.0	355.8	385.5	255.1	251.8
Domestic use.....	124.7	131.1	148.5	169.9	150.4	140.8	165.2
Totals, Disposition.....	357.0	356.2	389.5	525.7	535.9	395.9	417.0
Carryover, July 31.....	102.4	112.2	189.2	217.2	383.2	601.7	493.7

[†] Includes wheat flour in terms of wheat.

² Less than 50,000 bu.

Price and Marketing Arrangements.—The marketing of western Canadian wheat during the 1954-55 crop year was again conducted by the Canadian Wheat Board on a one year pool basis with the initial payment set at \$1.40 per bu., basis No. 1 Northern in store Fort William-Port Arthur or Vancouver. The initial payment for No. 1 C.W. Amber Durum was again established at \$1.50 per bu. No adjustment or final payments had been announced by Nov. 30, 1955 on the 1954-55 pool. However on Nov. 6, 1954 an interim payment of 10 cents per bu. on 1953-54 deliveries of wheat was announced. This payment covered all 1953-54 deliveries with the exception of certain special varieties that had not yet been sold in sufficient quantity to justify an interim payment. The final payment on the 1953-54 pool was announced on May 16, 1955 and averaged 6.384 cents per bu. on farmers' deliveries of 398,000,000 bu. Prior to the deduction of the Prairie Farm Assistance Act levy, the net price realized by producers in the 1953-54 pool for No. 1 Northern wheat, basis in store Fort William-Port Arthur or Vancouver, was \$1.56426 per bu. The corresponding realized price for the 1952-53 pool was \$1.81871 per bu.

Final payments to producers for wheat delivered to the 1954-55 pool will depend on the average prices at which the Board has been able to sell the various grades, as well as the costs incurred by the Board in carrying abnormally heavy stocks over an extended period of time.

The 1954-55 crop year coincided with the second year of the current three year International Wheat Agreement. Under its provisions Canada had an export quota of 152,300,000 bu. for 1954-55 and, according to the final report on the year's transactions, Canadian sales under the agreement totalled 109,200,000 bu. Sales under the Agreement were quite widely distributed, with all but 16 of the 44 importing countries included in the pact purchasing wheat and/or flour from Canada. The larger purchasers from Canada under the Agreement were: the Federal Republic of Germany 21,400,000 bu.; Japan 16,800,000 bu.; Belgium 15,000,000 bu.; and the Netherlands 10,800,000 bu. The greater part of Canada's wheat trade during 1954-55 was carried on in Class II wheat (i.e., wheat exported outside the provisions of the International Wheat Agreement). The leading market for Class II wheat was the United Kingdom, that country accounting for about 89,200,000 bu. of wheat as grain and the equivalent of an additional 12,600,000 bu. in the form of wheat flour. The combined Canadian exports of 251,900,000 bu. of wheat and flour went to 86 countries, territories and colonies during the crop year.

During 1954-55 domestic sales of wheat, with the exception of Durum, were made at the same prices as those prevailing for wheat sold under the International Wheat Agreement. Throughout the crop year an additional 10 cents per bu. over the IWA price was charged on domestic sales of Durum. During the entire 1954-55 crop year Class II prices for all grades of wheat except Durum coincided with the IWA and domestic quotations. All through the season Class II Durum sold at a substantial margin over Durum sold under IWA or for domestic use.

Exports of wheat and flour (in terms of wheat) during 1954-55 amounted to 251,900,000 bu., about 1 p.c. below the 255,100,000 bu. in 1953-54 but well above the prewar (1935-36—1939-40) average of 182,500,000 bu. The 1954-55 total exports consisted of 211,300,000 bu. of wheat as grain and the equivalent of 40,600,000 bu. of wheat flour. Total domestic (commercial and farm) disappearance of wheat increased from 140,800,000 bu. in 1953-54 to a level of 159,100,000 bu. in 1954-55. This total was also slightly above the 1944-45—1953-54 average of 150,600,000 bu. and surpassed by a wide margin the prewar average of 114,400,000 bu. The upward movement in domestic use during 1954-55 was largely attributable to the substantial increase in the amount of wheat fed to livestock. As a result of lower supplies and increased domestic use year-end stocks of wheat at July 31, 1955 dropped to 499,700,000 bu. but were still substantially above average.

Other Grains.—*Supply and Disposition.*—Preliminary data on supply and disposition of the major Canadian grains for the crop year 1954-55 together with revised and more detailed data for 1953-54 are set out in Table 19. Carryover stocks of wheat, barley and

rye were at record levels at July 31, 1954 but total crop-year supplies of these grains were lower than in 1953-54 because of much smaller crops in 1954. The combined effect of lower carryover stocks and a small crop caused a substantial reduction in total supplies of oats but supplies of flaxseed were only slightly lower than in 1953-54 since the increase in production virtually offset the reduction in carryover stocks.

Total exports of coarse grains in 1954-55 were down considerably from those of 1953-54, although still above the ten year (1944-45—1953-54) average for barley, rye and flaxseed. The sharpest drop occurred in exports of oats (including rolled oats and oatmeal) which fell from 70,700,000 bu. in 1953-54 to 22,200,000 bu. in 1954-55. Exports of barley (including malt and pot and pearl barley in barley equivalent) amounted to 80,900,000 bu., the third highest on record, and nearly double the ten year average of 41,900,000 bu. Rye exports at 9,300,000 bu. were sharply below the record 1953-54 total of 16,800,000 bu. but still slightly above the ten year average. The only increase over 1953-54 was registered by flaxseed exports which at 6,300,000 bu. were the highest since 1943-44. Domestic use of all grains continued at a high level in 1954-55 and this, together with fairly sharp reductions in total supplies, caused a substantial reduction in year-end carryover stocks from the record or near-record levels of July 31, 1954.

Price and Marketing Arrangements.—Marketing of western Canada oats and barley in 1954-55 was again carried on through compulsory crop-year pools administered by the Canadian Wheat Board. Initial payments for both grains were made on the same basis as in 1953-54, i.e., 65 cents per bu. for No. 2 C.W. oats and 96 cents per bu. for No. 3 C.W. 6-Row barley, in store Fort William-Port Arthur. Increases in initial payments of 10 cents per bu. for barley and 7 cents per bu. for oats were made effective on Mar. 14 and Mar. 21, 1955 respectively and made retroactive on all deliveries of these grains since Aug. 1, 1954. Details of final payments on the 1954-55 barley pool were announced on Nov. 21, 1955 while those on the oats pool were made known on Nov. 30, 1955.

Final payments on the 112,428,326 bu. of barley delivered to the 1954-55 pool averaged 5.814 cents per bu. after deduction of payment expenses and the 1 p.c. Prairie Farm Assistance Act levy. Total prices (basis in store Fort William-Port Arthur) realized by producers for representative grades, after deducting carrying charges in country and terminal elevators, Board administrative costs, etc., but before deducting the 1 p.c. PFAA levy, were \$1.10501 per bu. for No. 3 C.W. 6-Row barley and \$1.00652 per bu. for No. 1 Feed barley. Final payments on the 69,581,184 bu. of oats delivered to the 1954-55 pool averaged 5.432 cents per bu. Total prices realized by producers for representative grades, on the same basis as for barley, were \$0.80743 for No. 2 C.W. and \$0.71351 for No. 1 Feed oats.

Preliminary data indicate that about 13,200,000 bu. of rye and 8,800,000 bu. of flaxseed were delivered by farmers in western Canada in 1954-55, both these grains being sold on the open market. In eastern Canada, where commercial grain production is on a much smaller scale, all grain continued to be sold on the open market.

Miscellaneous Grain Trade Statistics

Grain Handled at Eastern Elevators.—Although the volume of grain handled at eastern elevators in the 1953-54 crop year was sharply below the record total of 1952-53 it compared favourably with the years prior to the unprecedented export movement in the two year period ended July 31, 1953. Receipts and shipments of each of the five major grains in 1953-54 were down from those of the previous crop year, with the greatest decreases in volume being registered by wheat and barley. Total receipts of the five grains in 1953-54 amounted to 367,701,383 bu., a decrease of 45 p.c. from the 1952-53 level, while total shipments at 354,181,460 bu. were 46 p.c. below those of 1952-53.

21.—Canadian Grain Handled at Eastern Elevators, Crop Years Ended July 31, 1950-54

NOTE.—Figures for the crop years ended 1922-49 are given in the corresponding table of previous Year Books beginning with the 1931 edition.

Item and Crop Year	Wheat	Oats	Barley	Rye	Flaxseed	Total Grain
	bu.	bu.	bu.	bu.	bu.	bu.
Receipts—						
1949-50.....	262,914,675	34,911,609	17,239,457	747,858	8,711,243	324,524,842
1950-51.....	208,590,760	30,631,192	35,731,508	5,763,488	7,522,620	288,289,577
1951-52.....	380,847,530	43,117,243	113,942,213	7,803,517	6,913,172	552,623,675
1952-53.....	438,086,442	49,827,694	157,847,406	8,078,375	11,211,224	665,051,141
1953-54.....	229,955,136	41,756,777	84,232,908	1,325,338	10,431,224	367,701,383
Shipments—						
1949-50.....	251,853,362	36,140,216*	18,139,086	1,553,094	11,743,926	319,429,684*
1950-51.....	223,500,208	28,746,032	31,225,701	6,216,681	8,580,204	298,268,826
1951-52.....	358,201,436	42,983,657	109,327,850	7,644,936	6,642,468	524,800,347
1952-53.....	427,422,896	49,870,352	162,834,639	7,255,950	11,141,489	658,525,326
1953-54.....	211,822,877	42,825,733	86,875,792	1,944,955	10,712,103	354,181,460

Grain Inspections.—Reflecting the congestion existing in storage facilities the volume of grain inspected by the Board of Grain Commissioners for Canada in the crop year ended July 31, 1954 was about 21 p.c. lower than in the preceding crop year. Inspections of wheat at 349,377,385 bu., and barley at 113,410,889 bu. were down by 27 p.c. and 22 p.c. respectively while inspections of oats at 106,662,848 bu. were up slightly from those of 1952-53. The only other grains registering increases in inspections in 1953-54 were flaxseed, buckwheat, peas and soybeans. Inspections of wheat, oats and barley accounted for 94 p.c. of the total Canadian grain inspected in 1953-54 as against 95 p.c. in 1952-53.

22.—Quantities of Grain Inspected, Crop Years Ended July 31, 1953 and 1954

Grain	1952-53			1953-54		
	Western Division	Eastern Division	Total	Western Division	Eastern Division	Total
	bu.	bu.	bu.	bu.	bu.	bu.
Wheat.....	470,367,968	9,476,933	479,844,901	337,114,919	12,262,466	349,377,385
<i>Spring wheat.....</i>	<i>469,897,210</i>	<i>44,809</i>	<i>469,942,019</i>	<i>336,760,056</i>	—	<i>336,760,056</i>
<i>Winter wheat.....</i>	<i>470,758</i>	<i>9,432,124</i>	<i>9,902,882</i>	<i>354,863</i>	<i>12,262,466</i>	<i>12,617,329</i>
Oats.....	105,500,800	122,782	105,623,582	106,503,651	159,197	106,662,848
Barley.....	144,560,107	524,807	145,084,914	112,098,022	1,312,867	113,410,889
Rye.....	14,433,627	341,002	14,774,629	11,212,226	208,430	11,420,656
Flaxseed.....	7,261,633	122,508	7,384,141	7,829,988	16,735	7,846,723
Buckwheat.....	186,850	164,575	351,425	354,612	80,777	435,389
Corn.....	175,955	11,676,016	11,851,971	589,960	10,559,106	11,149,066
Mixed grain.....	2,217,300	15,480	2,232,780	1,776,901	15,211	1,792,112
Peas.....	—	—	—	—	9,974	9,974
Soybeans.....	—	2,311,191	2,311,191	—	3,389,581	3,389,581
Beans.....	—	686,707	686,707	—	572,033	572,033

Lake Shipments of Grain.—The 1954 navigation season opened officially on Apr. 20, nineteen days later than the official opening in 1953, and closed on Dec. 14, the same date as in 1953. During the season total vessel shipments of wheat, oats, barley, rye, flaxseed and buckwheat amounted to 292,829,921 bu., down sharply from the 1953 total of 441,983,089 bu. All grains shared in the decrease, with reductions in wheat, oats and barley amounting to 33 p.c., 40 p.c. and 27 p.c. respectively.

**23.—Lake Shipments of Canadian Grain from Fort William-Port Arthur,
Season of Navigation 1953 and 1954**

Grain	1953			1954		
	To Canadian Ports	To U.S. Ports	Total Shipments ¹	To Canadian Ports	To U.S. Ports	Total Shipments ²
Wheat..... bu.	200,287,969	8,318,478	209,117,510	135,656,766	5,005,969	140,705,001
Oats..... "	40,860,935	57,341,563	98,202,498	35,181,687	23,290,912	58,472,599
Barley..... "	78,012,515	31,763,840	110,471,694	53,338,268	27,017,157	80,671,641
Rye..... "	3,188,236	14,489,023	17,677,259	2,860,577	5,619,683	8,480,260
Flaxseed..... "	6,283,288	—	6,283,288	4,372,189	—	4,372,189
Buckwheat..... "	230,840	—	230,840	128,231	—	128,231
Totals..... bu.	328,863,783	111,912,904	441,983,089	231,537,718	60,933,721	292,829,921
Mixed grain..... lb.	21,714,790	—	21,714,790	—	—	—
Sample grain..... "	9,762,178	7,090,098	16,852,276	12,033,369	—	12,033,369
Screenings..... tons	35,843	86,698	122,541	13,925	47,236	61,161

¹ Includes following shipments direct to Europe: wheat 251,539 bu. and barley 695,339 bu. and includes 259,524 bu. of wheat lost in shipwreck. ² Includes following shipments direct to Europe: wheat 42,266 bu. and barley 316,216 bu.

Wheat Flour.—After reaching a peak of 28,588,000 bbl. in 1946-47, Canadian wheat flour production dropped to a postwar low of 20,259,000 bbl. in 1949-50. Production in each of the following three crop years was only slightly below the five year (1945-46—1949-50) average of 23,985,000 bbl. A rather sharp drop occurred in 1953-54 however and a further slight decline in 1954-55 when production amounted to 20,717,000 bbl. During the crop year 1954-55, 71.7 p.c. of milling capacity was utilized compared with 70.1 p.c. in 1953-54.

Exports of wheat flour during recent years have followed approximately the same pattern as production, dropping from the 1946-47 peak of 16,896,000 bbl. to 9,003,000 bbl. in 1954-55. The 1954-55 exports of wheat flour amounted to approximately 43 p.c. of production, a slightly smaller proportion than exported during the preceding few crop years.

**24.—Wheat Milled for Flour, and Production and Exports of Wheat Flour,
Crop Years Ended July 31, 1936-55**

(Barrel = 196 lb.)

Crop Year (Aug. 1-July 31)	Wheat Milled for Flour '000 bu.	Wheat Flour	
		Production '000 bbl.	Exports '000 bbl.
Av. 1935-36 — 1939-40.....	67,845	15,003	4,900
Av. 1940-41 — 1944-45.....	99,705	22,402	12,092
Av. 1945-46 — 1949-50.....	107,330	23,985	13,173
1950-51.....	106,748	23,630	12,427
1951-52.....	104,494	22,842	11,356
1952-53.....	106,727	23,866	12,556
1953-54.....	91,855	20,801	10,277
1954-55 [*]	92,421	20,717	9,003

Subsection 2.—Livestock Marketings*

Marketings of all classes of livestock were greater in 1954 than in 1953. Increases in total movement through recorded commercial channels amounted to 13.3 p.c. in cattle, 10.0 p.c. in calves, 1.6 p.c. in hogs, and 4.3 p.c. in sheep. Slaughter classes of steers sold at stockyards and packing plants increased 7.0 p.c. over 1953 to total 712,881 head. There was a decrease of 3.0 p.c. in the heavier grades over 1,000 lb., but the total of those graded

* For more detailed information, see DBS annual, *Live Stock and Animal Products Statistics*, and the Department of Agriculture publication, *Livestock Market Review*. Statistics of livestock and poultry are given at pp. 428-430 and 436-437 respectively of this volume.

under 1,000 lb. increased by 18 p.c. Heifer gradings increased 19.0 p.c., fed calves 18.0 p.c. and cows 23.0 p.c. over the previous year. Steers constituted a slightly lower proportion of slaughter cattle, 36.7 p.c. in 1954 as compared with 39.1 p.c. in 1953. Feeder cattle shipments from yards and plants and on through-billings to country points in other provinces totalled 264,727, an increase of almost 20 p.c. over 1953. Quality of hogs was again somewhat lower than in the previous year. Grade A hogs constituted 26.0 p.c. of gradings in 1954 as compared with 27.3 p.c. in 1953 and 31.3 p.c. in 1951. The proportion in Grade B1 rose to 44.0 p.c. and Grade C comprised 9.1 p.c. in 1954 as compared with only 4.2 p.c. in 1950. Manitoba and the Maritime Provinces, notably Prince Edward Island with 53.6 p.c. Grade A carcasses, indicated improvement in hog quality. The price differential between Grades A and B1 hogs was increased to \$1 per cwt. on Apr. 12 from the 40 cents per cwt. formerly paid, to offer greater inducement for quality production. Marketings of sheep and lambs showed the third successive annual increase and about 60 p.c. of the 523,625 animals graded alive were 'good' lambs. Movement of feeder lambs at 39,307 was the largest since 1951.

25.—Livestock Marketed at Stockyards and Packing Plants by Grade 1950-54

(Exclusive of Newfoundland)

Livestock	1950	1951	1952	1953	1954
	No.	No.	No.	No.	No.
Cattle	1,661,754	1,470,076	1,405,870	1,701,004	1,938,672
Steers up to 1,000 lb.—					
Choice.....	17,408	17,939	27,012	37,346	55,973
Good.....	60,215	52,887	66,723	86,060	98,113
Medium.....	86,186	72,181	86,047	110,907	132,724
Common.....	53,088	46,016	60,879	85,947	90,091
Steers over 1,000 lb.—					
Choice.....	43,036	57,754	106,978	114,746	125,477
Good.....	61,278	79,847	107,913	125,963	112,467
Medium.....	43,968	50,897	65,871	77,202	75,453
Common.....	11,426	14,233	18,269	27,705	22,583
Heifers—					
Choice.....	12,695	13,102	14,757	14,253	16,261
Good.....	58,955	59,040	60,857	64,803	75,071
Medium.....	100,877	88,187	79,349	86,845	107,370
Common.....	87,648	66,563	54,723	70,153	82,146
Fed calves.....	94,944	77,993	99,389	146,323	172,810
Cows.....	566,075	444,858	339,878	386,785	474,775
Bulls.....	107,388	93,360	73,642	83,220	77,566
Stocker and feeder steers.....	196,569	182,164	112,273	143,828	177,857
Stock cows and heifers.....	55,172	49,120	27,164	34,341	38,695
Milkers and springers.....	4,826	3,935	4,146	4,577	3,240
Calves	872,335	679,008	630,624	819,921	899,887
Veal—					
Good and choice.....	239,649	189,607	173,117	232,820	233,671
Common and medium.....	490,743	370,812	357,857	446,111	534,717
Grass.....	83,766	54,604	50,448	72,973	59,005
Stocker.....	58,177	63,985	49,202	68,017	72,494
Hog Carcasses	4,775,557	4,894,542	6,698,642	5,002,814	5,078,715
"A".....	1,536,531	1,530,808	1,909,691	1,363,720	1,317,890
"B".....	2,516,136	2,537,964	3,464,597	2,673,573	2,723,127
"C".....	202,143	226,954	435,004	392,410	463,415
"D".....	19,558	18,644	29,803	23,180	21,663
Heavies.....	77,992	109,890	158,456	115,817	112,812
Extra heavies.....	66,142	90,531	133,552	92,469	88,425
Lights.....	85,364	79,691	163,014	87,550	71,667
Sows.....	225,001	253,307	345,635	207,171	234,189
Injured, ridglings and stags.....	46,690	46,753	58,890	46,924	45,527

**25.—Livestock Marketed at Stockyards and Packing Plants by Grade
1950-54—concluded**

Livestock	1950	1951	1952	1953	1954
	No.	No.	No.	No.	No.
Lambs and Sheep Graded Alive	519,947	436,495	505,878	520,019	539,627
Lambs—					
Good.....	289,571	253,050	300,398	306,397	323,752
Common.....	63,901	56,893	75,423	95,629	103,137
Bucks.....	84,084	56,745	64,375	62,336	51,726
Feeders.....	9,745	13,381	11,696	10,496	16,002
Sheep—					
Good.....	44,985	31,898	28,965	23,364	22,474
Common.....	27,661	24,528	25,021	21,797	22,536
Lamb and Sheep Carcasses	23,755	21,826	25,561	28,441	32,937
Lambs—					
"A".....	9,843	10,133	9,553	13,502	14,998
"B".....	6,540	5,324	6,033	6,268	7,284
"C".....	3,917	3,148	4,671	3,971	5,147
"D".....	1,088	1,041	2,156	1,457	1,885
"E".....	210	234	617	249	483
Sheep.....	2,157	1,946	2,531	2,994	3,140

**26.—Livestock Marketed at Public Stockyards, Packing Plants and Direct for Export
by Province 1954**

(Exclusive of Newfoundland)

Livestock	Maritime Provinces	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Total
	No.	No.	No.	No.	No.	No.	No.	No.
Cattle	27,029	96,990	659,001	192,924	416,252	561,647	54,258	2,008,101
Totals to stockyards....	446	48,596	389,469	116,571	293,611	408,306	17,082	1,274,081
Direct to packers.....	25,677	46,354	237,117	75,584	106,214	140,553	33,092	664,591
Direct for export.....	906	2,010	32,281	225	435	3,437	3,237	42,531
Country points in other provinces ¹	—	30	134	544	15,992	9,351	847	26,898
Calves	27,868	292,392	266,672	87,814	104,077	132,496	10,966	922,285
Totals to stockyards....	9,992	101,324	120,070	38,650	70,549	67,628	2,923	411,136
Direct to packers.....	17,220	190,871	143,217	49,009	24,568	56,104	7,762	488,751
Direct for export.....	656	194	3,385	57	416	—	84	4,792
Country points in other provinces ¹	—	3	—	98	8,544	8,764	197	17,606
Hogs	144,132	898,581	1,790,032	336,015	421,601	1,476,249	32,291	5,098,901
Totals to stockyards....	140	111,471	185,915	56,836	95,223	224,223	1,096	674,904
Direct to packers.....	143,427	786,998	1,600,823	278,316	326,123	1,237,547	30,577	4,403,811
Direct for export.....	565	112	3,294	863	255	14,479	618	20,186
Sheep and Lambs	41,441	148,920	174,265	33,689	45,343	122,225	26,534	592,417
Totals to stockyards....	3,692	30,751	60,119	10,450	20,347	37,230	2,641	165,230
Direct to packers.....	37,691	118,163	112,862	23,225	12,467	80,183	22,743	407,334
Direct for export.....	58	6	1,284	14	1	46	625	2,034
Country points in other provinces ¹	—	—	—	—	12,528	4,766	525	17,819
Total Inward Move- ment—²								
Cattle.....	235	1,634	132,986	10,357	24,242	93,959	1,412	264,825
Calves.....	50	192	48,813	1,741	5,678	25,269	558	82,301
Sheep and lambs.....	—	192	20,119	3,333	1,205	13,955	503	39,307

¹ Livestock billed through stockyards to country points outside province of origin.

² Movement to farms from stockyards and plants on through-billings from country points in one province to country points in another province.

Section 3.—Warehousing and Cold Storage*

Warehousing ranks high among the means by which the utilities of 'place', 'time' and 'possession' are added to the products of industry. Its importance has been emphasized in modern times because of the introduction of cold storage methods in the conservation of perishable foods.

The presentation of warehousing statistics is difficult because it is not an easy matter to define clearly what are to be regarded as stocks in storage. In these days of complicated business relationships and especially since the rise of the department store and chain store as characteristic institutions in the retail merchandising field, it often happens that warehousing is carried on in close relationship with merchandising. However if the strict economic definition of warehousing is adopted then this term should be restricted to those facilities that add the utility of 'time' to the 'form' utilities that are the product of the extraction and manufacturing industries. Because the warehouses established in close connection with retail trade are more often than not convenient places for the temporary storage of goods in process of transfer from the manufacturer or wholesaler to the consumer, then they are not, in the strict economic sense, services that add the utility of 'time' to commodities already worked up into 'form'. At least as some clear line must be drawn and because separate statistics of the latter branch of storage are not available, it is considered practicable to interpret warehousing in this way.

The statistics of warehousing are gathered together under this Section. Subsection 1 presents statistics of the licensed storage of grain. Subsection 2 deals with cold storage facilities without which perishable foods such as meats, dairy products, fish and fruits could not be exchanged or distributed on a wide scale; it includes also figures of stocks of food on hand. Subsection 3 deals with the storage of petroleum and its products and Subsection 4 with public warehouses and customs warehouses. The facilities that specialize in the storage of tobacco and alcoholic liquors are analysed in Subsection 5. These bonded warehouses, as they are called, are under the strict surveillance of Federal Government excise officers who supervise all movements into and from such places of storage.

Subsection 1.—Licensed Grain Storage

Total grain storage in Canada licensed under the provisions of the Canada Grain Act by the Board of Grain Commissioners for Canada at Dec. 1, 1954 amounted to 580,969,000 bu., an increase of 19,464,000 bu. over the level at Dec. 1, 1953. Slightly over 15,000,000 bu. of this increase occurred in western country elevators, reflecting the need for providing additional storage resulting from the cumulative effect of unusually large western Canada grain crops in recent years. Licensed grain storage capacity in Canada reached a peak of 603,000,000 bu., at Dec. 1, 1943 but, following the disposal of heavy wartime stocks, declined to 428,000,000 bu. at Dec. 1, 1947. Since that date capacity has increased each year.

Although the 1954 western grain crop was below average in volume, elevator storage space continued to be at a premium throughout the 1954-55 crop year as a result of the backlog of unusually large farm stocks of old-crop grain. Consequently farmers' marketings of western grain continued to be governed to a large extent by space made available in country elevators as grain moved forward into the domestic and export market. As indicated in Table 27 there was relatively little variation in the proportion of elevator space occupied at Dec. 1, Mar. 30 and July 31 in the 1954-55 crop year. Although information is given in the table for only three dates in the crop year, weekly data on stocks of grain in various commercial positions may be obtained from the *DBS Grain Statistics Weekly*.

* Information supplied by various Divisions of the Departments of Agriculture, Fisheries, Mines and Technical Surveys, and National Revenue and of the Dominion Bureau of Statistics.

27.—Licensed Grain Storage Capacity and Grain in Store, Crop Years 1953-54 and 1954-55

NOTE.—Because these figures are exclusive of stocks in transit or in eastern mills, they are lower than those shown in Table 15, p. 915.

Crop Year and Storage Position	Licensed Storage Capacity	Canadian Grain in Licensed Storage				Proportion of Licensed Storage Capacity Occupied		
	Dec. 1, 1953	Dec. 2, 1953	Mar. 31, 1954	July 31, 1954	Dec. 2, 1953	Mar. 31, 1954	July 31, 1954	
	'000 bu.	'000 bu.	'000 bu.	'000 bu.	p. c.	p. c.	p. c.	
1953-54								
Western country.....	322,986	238,827	254,977	267,133	73.9	78.9	82.7	
Interior, private and mill.....	20,716	8,577	9,640	8,626	41.4	46.5	41.6	
Interior, terminals.....	20,600	16,805	18,162	15,996	81.6	88.2	77.7	
Pacific coast.....	21,756	13,915	13,787	8,054	64.0	63.4	37.0	
Fort William-Port Arthur.....	90,517	39,104	81,744	62,976	43.2	90.3	69.6	
Georgian Bay and upper Lake ports.....	35,641	32,549	25,224	31,283	91.3	70.8	87.8	
Lower Lake and upper St. Lawrence ports.....	19,100	16,036	11,414	13,352	84.0	59.8	69.9	
Lower St. Lawrence ports.....	24,912	19,718	16,750	21,396	79.2	67.2	85.9	
Maritime ports ¹	5,277	4,890	3,368	5,564	92.7	63.8	105.4	
Totals, 1953-54.....	561,505	390,420	435,066	434,380	69.5	77.5	77.4	
	Dec. 1, 1954	Dec. 1, 1954	Mar. 30, 1955	July 31, 1955 ^p	Dec. 1, 1954	Mar. 30, 1955	July 31, 1955 ^p	
	'000 bu.	'000 bu.	'000 bu.	'000 bu.	p. c.	p. c.	p. c.	
1954-55								
Western country.....	338,174	247,333	246,479	257,543	73.1	72.9	76.2	
Interior, private and mill.....	20,725	9,180	10,101	8,889	44.3	48.7	42.9	
Interior, terminals.....	20,600	18,875	18,673	18,038	91.6	90.6	87.6	
Pacific coast.....	20,106	15,081	11,453	9,769	75.0	57.0	48.6	
Fort William-Port Arthur.....	90,517	51,106	76,635	58,524	56.5	84.7	64.7	
Georgian Bay and upper Lake ports.....	36,641	33,394	9,741	32,995	91.1	26.6	90.0	
Lower Lake and upper St. Lawrence ports.....	19,100	14,390	9,518	14,495	75.3	49.8	75.9	
Lower St. Lawrence ports.....	27,912	21,118	17,296	21,675	75.7	62.0	77.7	
Maritime ports ¹	7,193	6,227	2,793	6,031	86.6	38.8	83.8	
Totals, 1954-55.....	580,969	416,704	402,688	427,960	71.7	69.3	73.7	

¹ Excludes Newfoundland.

Subsection 2.—Cold Storage and Storage of Foods

Cold Storage Warehouses.—Under the Cold Storage Act (R.S.C. 1952, c. 52), as amended (R.S.C. 1952, c. 313), subsidies are granted by the Federal Government to encourage the construction and equipment of cold storage warehouses open to the public. The Act is administered by the Department of Agriculture.

There are five classifications of cold storage warehouses in Canada: (1) public warehouses which store foods and food products and of which the entire space is open to the public; (2) semi-public, or those which store foods and food products and which, though retaining part of the space for the products of the owner, allot the remainder to the public; (3) private or those which store foods and food products and allot no space to the public, a classification that includes refrigerated space in connection with abattoirs, creameries, dairies, cheese factories and wholesale and retail distributing warehouses; (4) locker plant, where the total space is occupied by lockers for rental to the public and which may in addition cut, process, chill and freeze foods and food products for storage in lockers; and (5) bait depots, having space used solely or principally for freezing and storing bait for the use of fishermen.

No hard and fast rule can be laid down for distinguishing between public and private warehouses. In general those owned and operated by firms trading in the goods stored in the warehouse are considered as private, though most of these places rent space to the public when it is not required for their own purposes.

Though the figures in Tables 28 and 29, compiled by the Department of Agriculture, give some idea of the cold storage warehouse capacity in Canada, it must be explained that it is not possible to secure completely accurate information on this subject and that the figures are approximations only.

28.—Cold Storage Warehouses by Province, Year Ended Mar. 31, 1955

NOTE.—Figures are approximate only.

Province	Subsidized Public Warehouses				All Warehouses	
	No.	Refrigerated Space	Cost	Total Subsidy	No.	Refrigerated Space
		cu. ft.	\$	\$		cu. ft.
Newfoundland.....	—	—	—	—	52	1,606,968
Prince Edward Island.....	10	300,397	216,004	65,165	25	435,000
Nova Scotia.....	22	4,991,885	4,027,185	1,199,462	78	5,661,911
New Brunswick.....	8	1,545,429	1,029,780	308,928	47	2,089,402
Quebec.....	43	4,514,184	3,695,648	1,161,964	258	18,111,967
Ontario.....	61	9,260,543	6,222,668	1,864,343	884	30,466,095
Manitoba.....	9	3,141,532	2,180,934	654,986	165	9,575,447
Saskatchewan.....	21	668,381	834,192	253,606	248	4,338,490
Alberta.....	6	655,501	566,192	172,453	202	6,871,334
British Columbia.....	70	23,062,713	9,660,808	2,906,718	178	29,954,229
Totals.....	250	48,140,565	28,433,725	8,587,625	2,137	109,110,843

29.—Storage and Refrigerated Space by Province as at June 30, 1955

NOTE.—Figures are subject to revision.

Class of Storage	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec
Public—					
Warehouses..... No.	..	15	27	12	62
Refrigerated Space—					
Freezer..... cu. ft.	..	204,087	1,241,299	994,850	4,330,463
Cooler..... "	..	30,142	3,420,222	649,198	7,008,547
Locker..... "	..	43,520	15,668	20,706	17,694
Private—					
Warehouses..... No.	29	9	47	34	182
Refrigerated Space—					
Freezer..... cu. ft.	1,152,555	46,541	711,243	305,711	1,103,533
Cooler..... "	106,008	109,475	229,119	98,798	5,466,488
Locker..... "	..	..	4,600	469	..
Locker Plants—					
Warehouses..... No.	2	..	2	..	14
Refrigerated Space—					
Freezer..... cu. ft.	..	..	8,700	..	66,022
Cooler..... "	..	..	3,296	..	35,232
Locker..... "	55,050	..	12,020	..	83,988
Bait Depots—					
Warehouses..... No.	21	1	2	1	..
Refrigerated Space—					
Freezer..... cu. ft.	289,905	965	15,744	15,053	..
Cooler..... "	750	270	..	4,617	..
Locker..... "	2,700	..	..	..	..
Totals, Warehouses..... No.	52	25	78	47	258
Totals, Refrigerated Space..... cu. ft.	1,606,968	435,000	5,661,911	2,089,402	18,111,967

29.—Storage and Refrigerated Space by Province as at June 30, 1955—concluded

Class of Storage	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Totals
Public—						
Warehouses..... No.	138	15	23	14	80	386
Refrigerated Space—						
Freezer..... cu. ft.	4,830,234	3,997,173	594,834	483,694	5,100,672	21,777,306
Cooler..... "	12,337,443	1,444,055	705,899	340,005	22,245,651	48,181,162
Locker..... "	601,632	37,150	96,162	86,759	29,621	948,912
Private—						
Warehouses..... No.	378	60	75	48	26	888
Refrigerated Space—						
Freezer..... cu. ft.	2,464,747	648,328	607,305	1,816,029	377,678	9,233,670
Cooler..... "	6,893,767	2,716,221	1,233,511	3,067,050	1,023,455	20,943,892
Locker..... "	63,774	..	20,734	11,985	..	101,562
Locker Plants—						
Warehouses..... No.	368	90	150	140	72	838
Refrigerated Space—						
Freezer..... cu. ft.	482,890	53,726	28,677	29,385	103,977	773,377
Cooler..... "	708,850	140,907	258,163	248,252	157,548	1,552,248
Locker..... "	2,082,758	537,887	793,205	788,175	915,627	5,268,710
Bait Depots—						
Warehouses..... No.	..	..	..	..	..	25
Refrigerated Space—						
Freezer..... cu. ft.	..	..	..	..	..	321,667
Cooler..... "	..	..	..	..	..	5,637
Locker..... "	..	..	..	..	..	2,700
Totals, Warehouses..... No.	884	165	248	202	178	2,137
Totals, Refrigerated Space..... cu. ft.	30,466,095	9,575,447	4,338,490	6,871,334	29,954,229	109,110,843

30.—Stocks of Food Commodities on Hand in Cold Storage and in Dairy Factories as at Jan. 1, 1954

Item	As at Jan. 1	Minimum during Year	Date at which Minimum Occurred	Maximum during Year	Date at which Maximum Occurred	Twelve Month Average
Butter, Creamery, Dairy and Whey—						
In storage..... '000 lb.	71,277	42,242	Apr. 1	115,506	Oct. 1	77,379
Total stock..... "	71,312	42,312	Apr. 1	115,646	Oct. 1	77,502
Cheese, Cheddar—						
In storage..... "	32,979	22,096	May 1	48,867	Oct. 1	34,982
Total stock..... "	33,057	22,592	May 1	49,044	Nov. 1	35,209
Evaporated Whole Milk—						
Total stock..... "	48,369	24,921	Apr. 1	74,226	Sept. 1	50,352
Skim Milk Powder—						
Total stock..... "	10,709	6,749	Apr. 1	18,952	Oct. 1	12,855
Eggs, Shell—						
In storage..... '000 cases	70	70	Jan. 1	315	June 1	199
Total stock..... "	70	70	Jan. 1	317	June 1	200
Eggs, Frozen—						
In storage..... '000 lb.	4,051	3,857	Feb. 1	7,927	Aug. 1	5,877
Poultry, Dressed—						
In storage..... "	30,816	12,984	Sept. 1	30,816	Jan. 1	20,528
Total stock..... "	30,841	12,984	Sept. 1	30,841	Jan. 1	20,592
Pork, Fresh—						
In storage..... "	4,132	3,881	Sept. 1	5,508	Dec. 1	4,615

**30.—Stocks of Food Commodities on Hand in Cold Storage and in Dairy
Factories as at Jan. 1, 1954—concluded**

Item	As at Jan. 1	Minimum during Year	Date at which Minimum Occurred	Maximum during Year	Date at which Maximum Occurred	Twelve Month Average
Pork, Frozen— In storage..... '000 lb.	16,292	7,529	Nov. 1	36,284	June 1	20,916
Pork, Cured and in Cure— In storage..... "	10,328	10,328	Jan. 1	15,685	Apr. 1	12,331
Lard— In storage..... "	4,916	2,160	Nov. 1	7,287	June 1	4,801
Beef, Fresh— In storage..... "	10,018	10,018	Jan. 1	13,801	Dec. 1	11,840
Beef, Frozen— In storage..... "	25,220	8,067	Sept. 1	25,220	Jan. 1	12,389
Beef, Cured, etc.— In storage..... "	518	303	June 1	555	Sept. 1	433
Veal— In storage..... "	5,520	3,148	Apr. 1	5,520	Jan. 1	4,865
Mutton and Lamb— In storage..... "	3,533	785	Aug. 1	3,533	Jan. 1	1,991
Fruit— Apples, Fresh— In storage..... '000 bu.	3,656	201	June 1	7,581	Nov. 1	1,971
Frozen Fruit— In storage..... '000 lb.	19,188	10,818	June 1	27,526	Sept. 1	19,935
In preservatives— In storage..... "	11,882	6,928	July 1	12,898	Nov. 1	10,291
Potatoes— In storage..... '000 bu.	19,936	1,933	June 1	23,408	Nov. 1	9,291

Cold Storage of Fish.—The normal seasonal trend in holdings of frozen fish in Canada was followed in 1954. Stock levels generally reflect the pattern of production. A net movement out of storage takes place during the period between November and April when adverse climatic conditions in the fishing areas result in decreased production. Storage stocks increase from May to October principally because that is the period of accelerated production. A considerable proportion of the fish frozen for holding in Canadian cold storages is destined for export to the United States where the pattern of production for these and similar species is much the same as in Canada. The accumulation of frozen fish in storage in Canada therefore occurs during the same period in which stocks increase in the United States. Canada's domestic consumption of frozen fish in general does not vary a great deal from season to season. The storage stocks of frozen fish held in Canada during 1954 were somewhat lower than in 1953 until the last three months of the year when they rose above the level of the corresponding period in the previous year.

There was a marked increase during 1954 in production of the principal groundfish species caught in Atlantic waters. The United States market for these species in the form of frozen fillets to be processed into fish sticks increased during the year. Stocks of groundfish fillets also exceeded 1953 levels during the second half of 1954 but stocks of frozen freshwater species were somewhat lower. Similarly holdings of frozen Pacific halibut, which is an important storage item, were lower throughout most of 1954.

31.—Storage Stocks of Fish by Month and Type 1953 and 1954

NOTE.—Stock totals are as at the beginning of each month; stocks of individual products are monthly averages.

Month	1953	1954	Group and Product	1953	1954
	'000,000 lb.			'000,000 lb.	
Jan. 1.....	54.8	51.3	Frozen, Fresh Seafish¹	43.0	40.3
Feb. 1.....	46.1	43.2	Salmon, Pacific, dressed and filleted.....	7.2	7.1
Mar. 1.....	38.9	36.4	Halibut, Pacific, dressed.....	7.1	7.9
Apr. 1.....	35.9	28.6	Herring, Atlantic, round.....	5.8	3.4
May 1.....	35.1	26.5	Cod, Atlantic, filleted.....	4.3	5.1
June 1.....	39.6	32.1	Frozen, Fresh Inland Fish¹	4.9	3.3
July 1.....	50.9	39.3	Whitefish, dressed and filleted.....	1.1	0.7
Aug. 1.....	54.2	48.7	Tullibee, round or dressed.....	0.7	0.3
Sept. 1.....	62.8	57.3	Pickarel (yellow pike), dressed and filleted.....	0.7	0.7
Oct. 1.....	62.7	65.9	Frozen, Smoked Fish¹	2.5	2.3
Nov. 1.....	64.5	67.3	Cod, Atlantic, filleted.....	1.1	1.3
Dec. 1.....	59.5	63.5	Sea herring, dressed.....	0.0	0.5
			Haddock, dressed.....	0.3	0.2
Averages.....	50.4	46.7	Totals.....	50.4	45.9

¹ Totals include other items not listed.

Cold Storage of Dairy Products.—Cold storage facilities are a necessary adjunct in the manufacture of dairy products, most of which are perishable in varying degrees. All creameries have facilities for the storing of butter, the size and type of storage depending on the size of the creamery. If the butter produced at small country plants is not printed for immediate sale, the butter solids are disposed of or are transported to larger creameries where better refrigeration is available or to private or public cold storages in the larger urban centres. Temperature control is important in the curing process for cheese as well as in the prevention of deterioration. Most cheese factories are equipped with mechanical refrigeration and are required to have storage capacity for 17 days' produce during the period of maximum manufacture. The cheese is then transferred to central warehouses. Milk is placed in storage as soon as it is bottled and held until delivery. Dry whole milk and other dried milk products containing fat are usually stored in cool air chambers to prevent rancidity.

Cold Storage of Apples and Potatoes.—Cold storage space for apples in Canada has increased rapidly in recent years as a result of the promotion of orderly marketing, the extension of the marketing season generally, and increased production in some areas. The trend has followed the curtailment in shipments to traditional markets in the United Kingdom and other European countries after World War II. There has been an increase recently in the construction of both private and co-operatively owned storages, particularly in the Province of Quebec.

Potatoes are not ordinarily held in cold storage but recently there has been an increase in the construction of potato storage houses and warehouses, particularly in the commercial producing areas.

Subsection 3.—Storage of Petroleum and Petroleum Products

Bulk storage plants for petroleum and petroleum products are established at convenient distributing centres, usually on a waterfront so that full advantage may be taken of the lower cost of water-borne traffic. From these centres the goods are transferred by boat, rail or truck to smaller distributing depots or directly to retail outlets. The principal refining and distributing centres are located at or near Halifax, Quebec, Montreal, Ottawa, Toronto, Sarnia, Fort William, Regina, Calgary, Turner Valley, Edmonton and Vancouver.

32.—Inventories of Petroleum and Petroleum Products in Storage at Jan. 1, 1951-55

(Barrels of 35 Imperial gallons)

NOTE.—Figures for 1940-48 are given in the 1950 Year Book, p. 852, and for 1949 and 1950 in the 1954 edition, p. 925.

Product	1951	1952	1953	1954	1955
	bbl.	bbl.	bbl.	bbl.	bbl.
Refinery Inventory—					
Crude oil.....	5,097,114	8,183,535	10,826,281	7,269,236	7,214,629
Naphtha specialties.....	157,366	154,238	120,768	140,906	159,746
Aviation gasoline.....	277,815	293,181	427,835	398,517	411,554
Motor gasoline.....	4,258,825	4,939,681	4,875,881	6,193,511	6,919,419
Tractor distillate.....	78,473	63,190	95,251	215,912	137,768
Aviation turbine fuel.....	1	21,409	51,103	148,548	263,094
Kerosene.....	120,305	166,497	154,010	139,613	209,195
Stove oil (No. 1 fuel oil).....	836,879	1,081,484	1,064,116	1,690,720	1,517,199
Furnace oil.....	1,952,317	2,837,202	3,625,302	3,369,841	4,662,888
Other light fuel oil.....		285,151	320,950	282,377	340,063
Heavy fuel oil (Nos. 4, 5 and 6).....	2,154,406	2,822,711	3,578,834	3,041,300	2,703,688
Diesel fuel.....	1,140,751	1,254,012	1,499,721	1,585,726	1,920,893
Asphalt.....	444,725	771,135	726,470	696,448	642,598
Coke (petroleum).....	33,384	32,011	12,287	16,041	9,490
Lubricating oil.....	197,805	221,854	226,184	239,525	353,465
Grease, wax and candles.....	24,818	12,131	16,485	23,867	22,334
Other products.....	7,026	22,856	29,457	58,704	29,507
Marketing Inventory—					
Naphtha specialties.....	78,209	101,251	98,874	131,732	120,771
Aviation gasoline.....	653,727	689,791	648,956	685,913	804,470
Motor gasoline.....	5,377,351	5,998,086	5,299,862	6,177,856	6,247,016
Tractor distillate.....	40,376	33,275	20,675	19,156	7,561
Aviation turbine fuel.....	1	64,404	35,464	154,274	142,817
Kerosene.....	196,389	199,786	146,133	145,699	126,426
Stove oil (No. 1 fuel oil).....	908,832	1,108,902	1,092,830	1,639,329	1,582,972
Furnace oil.....	3,363,424	3,647,111	3,858,910	4,215,581	4,304,174
Other light fuel oil.....		120,254	136,188	220,179	138,280
Heavy fuel oil (Nos. 4, 5 and 6).....	1,139,667	1,422,627	2,199,511	2,264,321	2,124,765
Diesel fuel.....	813,369	1,060,171	1,234,550	1,631,697	1,749,876

*Not classified separately.

Subsection 4.—General Warehousing

Public Warehouses.—The summary statistics of the warehousing industry in Canada presented in Table 33 cover the operations of the majority of firms offering warehousing and storage facilities to the public. The 1954 statistics include returns from 185 operators as compared with 173 reporting in 1953. Associations and organizations such as co-operatives operating warehouses or storages for their own members are not included nor are packing houses and other firms operating storage facilities in connection with their respective businesses. Many public warehousing companies also operate a local moving and cartage service and others a motor carrier business, including long-distance moving. For some firms revenues from motor carrier activities represent a large percentage of total receipts. Small food lockers are not included except where they may be part of a general warehousing business.

33.—Summary Statistics of the Warehousing Industry 1952-54

Item		1952	1953	1954
Companies reporting.....	No.	176	173	185
Investment in land, warehouses, etc.....	\$	41,272,321	42,342,981	47,649,107
Warehousing Facilities—				
Dry storage (net).....	cu. ft.	56,847,709	56,972,777	58,095,164
Cold storage.....	"	21,634,727	21,383,609	20,864,851
Revenue—				
Storage.....	\$	12,740,322	13,490,776	12,987,959
Cartage and moving.....	\$	8,723,536	9,353,688	13,506,767
Miscellaneous.....	\$	7,725,143	7,892,969	8,769,871
Total Revenue.....	\$	29,189,001	30,737,433	35,264,597

33.—Summary Statistics of the Warehousing Industry 1952-54—concluded

Item		1952	1953	1954
Operating expenses.....	\$	24,948,832	26,269,970	31,320,091
Net Operating Revenue.....	\$	4,240,169	4,467,463	3,944,506
Salaried employees.....	No.	1,237	1,195	1,452
Wage Earners—				
Regular.....	"	3,658	3,591	5,480
Casual.....	"	214	207	690
Salaries and wages paid.....	\$	12,884,496	13,641,331	16,380,795
Motor Vehicles—				
Trucks.....	No.	1,014	965	1,525
Tractors, semi-trailer units.....	"	369	402	477
Trailers.....	"	70	63	94

Customs Warehouses.—Warehouses for the storage of imported goods are known as customs warehouses. These are divided into eight classes, as follows: (1) those occupied by the Federal Government, some of which are used for examination and appraisal of imported goods and others, known as Queen's Warehouses, are used for the storage of unclaimed, abandoned, seized or forfeited goods; (2) warehouses, consisting of an entire building or part thereof, properly separated from the rest of the building by a partition, which are used exclusively for the storage of imported goods consigned to the proprietor of the building; (3) buildings or parts of buildings properly partitioned off, used for the storage of imported goods consigned to the proprietor or others, or for the storage of unclaimed or seized goods; (4) sufferance warehouses operated by the owners of vessels for the storage of in-bond goods transported by water or air, those operated by railway companies and those operated by express companies; (5) yards, sheds and buildings intended for the storage of imported coal and coke; (6) farms, yards, sheds, etc., which an importer of horses or sheep intends to use for the feeding and pasturing of imported animals other than purebred mares; (7) warehouses for the storage of animals not including horses for racing, and articles for exhibition or competition for prizes; (8) yards, sheds, etc., which importers intend to use for the storage of goods too heavy or too bulky to be admitted to an established customs warehouse.

Subsection 5.—Bonded Warehousing and Storage of Wines

Bonded Warehousing.—The Excise Duty Branch of the Department of National Revenue considers any premises licensed under the Excise Act to be a warehouse, whether for storage of raw materials to produce finished tobacco or cigar products or for spirits or malt used for brewing. Practically the total production of spirits is placed in bonded warehouses and only a small part of the output of beer is retained in storage. Wine, unlike spirits and beer, is not secured under bond. All imports of alcoholic beverages must go through bonded warehouses before being released to Provincial Liquor Commissions or Boards, or other agencies authorized by the Commissions or Boards to take alcoholic beverages out of bond. Similarly tobacco, cigars and cigarettes that are not stamped and duty paid are secured in bond. In addition to these warehouses there are those in which no manufacturing or production is carried on but which are being used solely for the storage of goods upon which duty has not been paid. Goods are stored in these warehouses usually for the purpose of rapid distribution and for delivery as ships' stores.

Table 34 shows the quantities of distilled liquor, tobacco, cigars, and cigarettes in bond in recent years. In addition the year-end inventories of beer in breweries increased from 24,572,714 gal. in 1954 to 24,876,958 gal. at the end of 1955.

34.—Distilled Liquor, Tobacco, Cigars and Cigarettes in Bond, Quarterly 1951-55

Item and Quarter	1951	1952	1953	1954	1955
Distilled Liquor—					
March.....'000 pf. gal.	81,878	87,973	92,089	95,400	102,925
June....."	84,120	90,007	93,339	97,845	105,047
September....."	84,647	90,241	92,501	98,081	105,773
December....."	85,921	90,658	93,174	99,477	107,084
Tobacco, Unmanufactured—¹					
March.....'000 lb.	195,137	216,733	226,832	217,296	229,016
June....."	177,730	191,732	198,058	190,540	202,793
September....."	158,418	164,420	168,792	163,155	171,272
December....."	166,587	169,700	166,194	171,126	175,983
Tobacco, Manufactured—¹					
March.....'000 lb.	5	26	1	7	—
June....."	—	6	4	—	—
September....."	—	4	1	1	—
December....."	10	4	1	—	—
Cigars—					
March.....'000	2,072	3,330	2,726	3,505	2,774
June....."	2,007	2,761	2,221	2,952	2,121
September....."	804	1,110	2,060	1,867	1,359
December....."	857	1,074	1,407	1,090	173
Cigarettes at 3 lb. or under—¹					
March.....'000	5,347	15,253	7,499	17,574	5,634
June....."	3,602	2,780	4,687	14,612	7,512
September....."	2,344	5,131	7,108	2,481	1,842
December....."	4,251	2,761	9,763	3,669	3,740

¹ Excludes Newfoundland.

Beverage spirits, as shown in Table 35, refer to spirits released for consumption but not to industrial alcohol; malt beer does not include beer made from duty-free malt; malt used is the total malt used to produce the malt beer; tobacco includes all types of manufactured tobacco products and snuff.

35.—Beverage Spirits, Malt Beer, Malt, Tobacco and Tobacco Products taken out of Bond and Destined for Consumption 1946-55

Year	Beverage Spirits	Malt Beer ¹	Malt Used	Cigars	Cigarettes	Tobacco
	pf. gal.	gal.	lb.	'000	'000	'000 lb.
1946.....	4,477,845	146,119,954	303,172,529	220,994	14,866,931	29,459
1947.....	4,483,786	162,140,243	332,282,690	215,902	15,143,369	28,553
1948.....	4,580,932	172,630,562	349,081,232	210,016	15,852,875	29,174
1949.....	4,715,417	172,963,887	348,786,984	208,208	16,839,654	28,710
1950.....	4,739,707	171,974,662	340,287,033	198,981	17,167,729	29,187
1951.....	5,074,217	179,648,482	353,130,285	169,136	15,667,266	30,177
1952.....	5,288,884	195,780,017	378,764,899	200,263	17,848,325	33,637
1953.....	5,618,040	202,897,996	381,508,232	235,587	21,001,492	28,732
1954.....	5,807,871	²	370,328,106	244,248	22,113,102	26,846
1955.....	6,131,321	²	372,693,929	252,633	24,576,087	26,000

¹ Duty has been paid herein on the malt.² Duty solely on gallonage basis since 1954.

Storage of Wines.—The wine industry is confined to a few localities such as the Niagara Peninsula in Ontario and the Okanagan Valley in British Columbia. Firms manufacturing native wines are not bonded, as far as the Federal Government is concerned, nor is wine in storage for maturing placed in bond. The only goods warehoused in bond in connection with wineries are sugar supplies and supplies of grape spirit distilled by the distilleries and held by the wineries for fortifying wines.

36.—Native Wine Produced and Placed in Storage for Maturing 1951-55

Year	Ontario		Other Provinces		Total	
	gal.	\$	gal.	\$	gal.	\$
1951.....	4,182,767	2,729,147	494,288	407,849	4,677,055	3,136,996
1952.....	4,383,358	2,764,750	552,694	440,864	4,936,052	3,205,614
1953.....	3,562,498	2,237,316	572,692	430,574	4,135,190	2,667,890
1954.....	4,414,981	2,688,060	640,183	510,464	5,055,164	3,198,524
1955.....	5,059,418	3,059,868	624,670	480,491	5,684,088	3,540,359

Section 4.—Co-operative Organizations*

Co-operative enterprise has played and continues to play a considerable role in the marketing and service sectors of the Canadian economy. It is particularly important in the agricultural field where it has been prominent in the marketing of grain and is becoming increasingly so in the marketing of dairy products, livestock and tobacco and in the purchase of feeds, fertilizers and spray material, food products, petroleum products and automobile accessories, etc. It is estimated that co-operative associations marketed over 30 p.c. of all agricultural products entering commercial trade channels in the crop year ended July 31, 1954.

Altogether there were in operation in Canada at the end of July 1954, 2,590 marketing and purchasing, service, and fishermen's co-operatives (insurance co-operatives excluded). This was a decline of 182 in number as compared with the previous year but the membership reported at 1,366,002 in 1954 remained almost the same.

The total business of all marketing and purchasing co-operatives in 1954 amounted to \$986,300,000. The value of farm products marketed was \$733,000,000. Most of the decrease of \$141,700,000 as compared with 1953 may be traced to the lower volume of grain sold in western Canada and to a slightly reduced grain price. Sales value of farm products in British Columbia, Ontario and Quebec did not vary greatly from 1953. Sales of farm supplies and merchandise in 1954 amounted to \$234,600,000. Decreases in Alberta, Quebec, New Brunswick and Nova Scotia were not quite offset by small increases in the other provinces.

Total assets of co-operative marketing and purchasing associations, including the four large western grain marketing organizations, at July 31, 1954 amounted to \$418,887,674. Members' equity was \$182,894,163, made up of liabilities to members in the form of loans and deferred patronage dividends amounting to \$73,572,237 and of the net worth of \$109,321,926 including share capital, reserves and unallocated surplus. Liabilities to the public amounting to \$236,000,000 consisted mainly of short term bank loans obtained by the western grain marketing co-operatives to finance grain inventories held for delivery to the Canadian Wheat Board at guaranteed prices. For all other marketing and purchasing co-operatives the members' equity in 1954 amounted to \$119,700,000, or 67 p.c. of the total assets of \$179,300,000.

* Prepared under the direction of the Deputy Minister of Agriculture, by P. G. Muller, Economics Division, Marketing Service.

37.—Summary Statistics of Co-operative Marketing and Purchasing Associations, Crop Years Ended July 31, 1945-54

Year	Associations	Places of Business	Patrons	Sales of Farm Products	Sales of Supplies	Total Business ¹
	No.	No.	No.	\$	\$	\$
1945	1,824	4,441	738,345	500,481,627	81,360,855	585,650,066
1946	1,953	4,488	922,928	454,564,927	95,603,311	554,329,652
1947	2,095	5,084	1,036,498	578,638,214	127,001,488	712,583,246
1948	2,249	5,423	1,195,372	616,347,477	157,874,045	780,084,955
1949	2,378	5,667	1,209,520	783,293,225	191,804,630	982,232,002
1950	2,495	5,761	1,223,582	803,638,962	206,082,408	1,015,264,763
1951	2,348	5,830	1,195,034	769,264,824	209,985,815	988,459,832
1952	2,194	5,470	1,108,803	840,113,835	234,848,220	1,085,854,744
1953	2,221	4,987	1,081,493	874,698,323 ^r	245,629,603 ^r	1,147,590,401 ^r
1954	2,086	4,510	1,005,266	733,012,042	234,583,125	986,297,820
	Value of Plant	Total Assets	Liabilities to the Public	Shareholders or Members	Members' Equity	
	\$	\$	\$	No.	\$	
1945	43,048,326	171,128,184	87,354,033	739,804	83,774,151	
1946	46,775,158	163,467,434	71,012,260	926,863	92,455,174	
1947	53,027,212	168,195,387	71,403,750	982,990	96,791,637	
1948	75,069,655	201,603,705	89,381,360	1,127,229	112,222,345	
1949	89,832,908	236,962,924	106,599,688	1,144,698	130,363,236	
1950	98,514,782	254,478,777	111,092,652	1,173,126	143,386,125	
1951	99,790,191	306,834,165	159,357,602	1,184,235	147,476,563	
1952	129,983,112	410,210,309	214,737,270	1,163,803	195,473,039	
1953	117,228,290	419,930,634	234,339,211	1,195,985	185,591,423	
1954	120,928,699	418,887,674	235,993,511	1,196,426	182,894,163	

¹ Includes other revenue.

38.—Summary Statistics of Co-operative Marketing and Purchasing Associations by Province, Crop Years Ended July 31, 1953 and 1954

Province	Associations	Shareholders or Members	Sales of Products	Sales of Merchandise	Total Business ¹
	No.	No.	\$	\$	\$
Newfoundland.....1953	47	7,278	110,464	3,404,981	3,525,235
.....1954	44	7,074	180,549	3,844,433	4,044,608
Prince Edward Island.....1953	29	6,763	2,309,729	3,153,449	5,504,536
.....1954	20	5,631	941,711	2,975,402	4,008,483
Nova Scotia.....1953	95	20,957	5,308,763	13,586,039	19,190,823
.....1954	91	22,869	4,632,093	12,477,257	17,241,968
New Brunswick.....1953	45	10,672	4,895,514	6,336,545	11,327,203
.....1954	48	10,548	1,647,002	4,534,654	6,219,955
Quebec.....1953	708	102,664	70,172,704	72,551,838	144,002,218
.....1954	648	87,029	68,477,665	58,502,780	128,445,275
Ontario.....1953	343	102,374	103,325,205	41,038,859	146,537,314
.....1954	341	105,718	100,352,445	45,007,059	146,013,121
Manitoba.....1953	132	130,692	76,208,672	14,004,409	90,854,401
.....1954	115	132,729	60,789,594	14,323,608	75,853,590
Saskatchewan.....1953	527	373,071	300,619,619	46,294,714	349,693,006
.....1954	495	461,455	216,701,860	52,038,783	272,629,003
Alberta.....1953	190	231,643	165,271,398	17,649,362	183,498,060
.....1954	180	203,970	144,564,061	14,739,124	159,811,268
British Columbia.....1953	99	53,671	47,874,049	15,014,246	64,513,048
.....1954	99	44,820	52,067,267	15,160,719	68,359,211
Interprovincial.....1953 ^r	6	156,200	98,602,206	12,595,161	128,944,557
.....1954	5	114,583	82,657,795	10,979,306	103,671,338
Totals.....1953	2,221	1,195,985	874,698,323^r	245,629,603^r	1,147,590,401^r
.....1954	2,086	1,196,426	733,012,042	234,583,125	986,297,820

¹ Includes other revenue.

**39.—Products Handled by Marketing and Purchasing Co-operatives,
Crop Year Ended July 31, 1954**

Product	Associations ¹	Value of Sales
	No.	\$
Marketing	1,033	733,012,042
Dairy products.....	514	133,477,785
Fruit and vegetables.....	124	37,073,061
Grain and seed.....	103	369,821,272
Livestock.....	303	104,467,181
Eggs and poultry.....	216	22,720,125
Lumber and wood.....	31	1,543,179
Honey.....	7	1,376,630
Wool.....	18	1,963,103
Fur.....	9	626,637
Tobacco.....	6	56,238,105
Maple products.....	3	2,699,514
Miscellaneous.....	49	1,005,445
Merchandising	1,723	234,583,125
Food products.....	802	63,858,547
Clothing and home furnishings.....	539	9,779,690
Petroleum products and auto accessories.....	694	32,126,610
Feed, fertilizer and spray material.....	823	77,062,758
Machinery and equipment.....	391	12,088,107
Coal, wood and building material.....	646	17,985,531
Miscellaneous.....	1,061	21,681,882
Totals	2,086	967,595,167

¹ Duplication exists in this column as some associations market produce as well as handle supplies. Some associations market more than one product and some handle many of the supplies listed.

Service co-operatives (other than life, fire and casualty insurance) numbered 418 in 1954 and reported a membership of 157,897 and services rendered to the amount of \$11,064,702. Such co-operatives provide housing, medical insurance, transportation, recreation facilities, telephone, printing, custom grinding, seed cleaning, and trucking facilities and there are some co-operative restaurants and boarding houses. In Saskatchewan over 200 community service co-operatives reported functions such as recreation, curling, skating and maintaining community halls but statistics covering these activities are not included with those of other service co-operatives because no business is transacted.

Co-operatives marketing fish and fish products operate in every province except Alberta and Manitoba. In 1954, 86 fishermen's co-operatives reported a membership of 11,679, sales of fish at \$14,915,246 and sales of supplies at \$2,771,827. Co-operatives handled about 9 p.c. of the total commercial fish marketings in Canada in 1954. The largest volume of business was handled by co-operatives in British Columbia, followed by Nova Scotia and Quebec.

Eleven co-operative wholesales operated in Canada in 1954, most of them engaged in supplying merchandise to their local co-operative members. In the eastern provinces, from Ontario to the Maritimes, they also act as central marketing agencies for farm products such as livestock, dairy products and wool but do very little processing or manufacturing, except of dairy products. In the west, co-operative wholesales operate coal mines, oil refineries, grease and oil blending plants and lumber mills but do not act as central marketing agencies for farm products. In the crop year ended July 31, 1954 they sold farm products valued at \$51,907,365 and supplies and merchandise amounting to \$96,850,083.

Farmers' mutual fire insurance companies today play an important role in the insurance field in Canada. In 1953 there were 402 of these in operation, having a net amount of insurance at risk of \$3,264,000,000. Co-operative life insurance is offered by at least three organizations and others specialize in automobile insurance, mutual benefit, fire and casualty insurance, hail insurance, fidelity and guarantee bonding, and marine insurance. In addition medical insurance is offered by 42 co-operatives, data for which are included in the service co-operative category.

Noteworthy in 1954 was the considerable amount of interest shown in the Canadian co-operative movement by other countries. Trainees from Egypt, Jamaica, Pakistan, Burma, India and Indonesia studied co-operation in Canada under the auspices of the Colombo Plan and the Food and Agriculture Organization of the United Nations. Of interest also were the important developments in co-operative manufacturing and processing which took place during the year. Co-operative wholesale associations reported the purchase of a chemical plant, the completion of an enlarged modern refinery, the acquisition of an abattoir and the building of a new warehouse. In New Brunswick the operations of a textile mill were taken over by the workers of a textile union.

Section 5.—Interprovincial Freight Movements*

Statistics on interprovincial trade are difficult to collect because there are no controls or barriers to it. The only comprehensive statistics available are the loadings and unloadings of freight carried by the railways. Railway traffic is segregated into 99 classes of freight and the differences between loadings and unloadings are the imports and exports *by rail* for the respective provinces. Freight can however be imported by rail and exported by water, as with western grain which may be moved to the Ontario ports of Fort William and Port Arthur. Consequently the statistics of Table 40 must not be taken as a measure of total interprovincial trade: these figures indicate interprovincial movement of railway freight which is one aspect only of that trade.

* Revised in the Transportation Section, Public Finance and Transportation Division, Dominion Bureau of Statistics.

40.—Railway Revenue Freight Movement by Province 1953 and 1954

Province	Loaded		Received from Foreign Connections		Totals Originated ¹	
	1953	1954	1953	1954	1953	1954
	tons	tons	tons	tons	tons	tons
Newfoundland.....	1,202,044	1,148,093	—	95	1,202,044	1,148,188
Prince Edward Island.....	294,676	296,338	—	26	294,676	296,364
Nova Scotia.....	9,434,283	9,401,113	129,166	141,076	9,563,449	9,542,189
New Brunswick.....	3,559,222	4,105,553	651,582	619,937	4,210,804	4,725,495
Quebec.....	18,045,029	20,705,415	8,090,620	7,770,050	26,135,649	28,475,465
Ontario.....	39,718,173	34,637,419	25,152,012	22,495,868	64,870,185	57,133,287
Manitoba.....	7,283,576	7,043,262	569,689	586,493	7,853,265	7,629,755
Saskatchewan.....	16,278,641	12,759,920	251,914	283,275	16,530,555	13,043,195
Alberta.....	13,532,072	11,014,527	68,758	49,645	13,600,830	11,064,172
British Columbia.....	10,712,215	11,186,822	1,133,380	1,173,123	11,845,595	12,359,945
Totals.....	120,059,931	112,298,467	36,047,121	33,119,588	156,107,052	145,418,055
	Unloaded		Delivered to Foreign Connections		Totals Terminated ¹	
	1953	1954	1953	1954	1953	1954
	tons	tons	tons	tons	tons	tons
Newfoundland.....	1,203,186	1,119,769	144,340	176,120	1,347,526	1,295,889
Prince Edward Island.....	408,657	406,172	689	207	409,346	406,379
Nova Scotia.....	8,315,255	8,046,429	766,820	610,699	9,082,075	8,657,128
New Brunswick.....	3,128,646	3,631,369	1,994,799	1,552,937	5,123,445	5,184,306
Quebec.....	20,558,052	22,686,757	8,696,299	7,333,175	29,254,351	30,019,932
Ontario.....	50,898,412	43,035,094	25,385,880	23,132,823	76,284,292	66,167,917
Manitoba.....	7,057,433	7,272,141	800,083	898,966	7,857,516	8,171,107
Saskatchewan.....	4,617,015	4,858,764	872,879	1,056,931	5,489,894	5,915,695
Alberta.....	6,118,269	5,190,486	31,988	16,670	6,150,257	5,207,156
British Columbia.....	8,555,454	8,267,899	5,829,896	5,320,577	14,385,350	13,588,476
Totals.....	110,860,379	104,514,880	44,523,673	40,099,105	155,384,052	144,613,985

¹ Figures for freight originating and freight terminating do not agree because freight that originates within a certain year does not all terminate within the same year.

PART II.—GOVERNMENT AIDS TO AND CONTROL OF DOMESTIC TRADE

During the postwar period, the elaborate system of government control of trade that the war effort made necessary was gradually relaxed (*see* the 1948-49 Year Book, pp. 837-841) until, by the beginning of 1949, only those measures to protect domestic requirements and prevent the forcing upward of prices in the Canadian market remained; since then even these have practically disappeared.

Section 1.—Controls Affecting the Handling and Marketing of Grain

The agencies exercising control of the grain trade in Canada include the Board of Grain Commissioners, which since 1912 has administered the provisions of the Canada Grain Act, and the Canadian Wheat Board, which operates under the Canadian Wheat Board Act 1935. The former is a quasi-judicial and administrative body which, through the powers vested in it in matters of interprovincial transportation and patents and copyrights, gives the Federal Government complete power to control the handling of grain; it has no power or duties in respect of grain prices. The Canadian Wheat Board, which began to function in the autumn of 1935, was a natural outgrowth of government stabilization measures that were taken during the depression years of the 1930's in regard to the marketing of grain crops. During this period the Government acquired a considerable quantity of wheat and, in the 1935 session of Parliament, legislation was passed to serve the dual purpose of disposing of the holdings so acquired and at the same time arranging for the marketing of new crops.

An account of the organization and functions of the Board of Grain Commissioners appears in the 1941 Year Book, pp. 481-482. An article on the operations of the Canadian Wheat Board is commenced in the 1939 Year Book, pp. 569-580, and concluded in the 1947 edition.

Section 2.—Combinations in Restraint of Trade*

The purpose of Canadian anti-combines legislation is to assist in maintaining free and open competition as a prime stimulus to the achievement of maximum production, distribution and employment in a system of free enterprise. To this end the legislation seeks to eliminate certain practices in restraint of trade, which serve to prevent the nation's economic resources from being most effectively used for the advantage of all citizens.

The first federal legislation in this field, enacted in 1889, is still effective in amended form as Sect. 411 of the Criminal Code and is the mainstay of Canadian anti-combines legislation. Generally speaking this Section forbids suppliers (manufacturers, wholesalers, retailers) to arrange among themselves to eliminate competition over a substantial part of any market by limiting production, restricting distribution or fixing prices.

Sect. 411 of the Criminal Code and the Combines Investigation Act (R.S.C. 1952, c. 314) are complementary pieces of legislation. The latter was enacted in 1923 and amended extensively in 1935, 1937, 1946, 1949, 1951 and 1952. It repeats in Sects. 2 and 32 some of the substance of Sect. 411 but, while the latter relates chiefly to arrangements among separate firms, the former embraces any "merger, trust or monopoly", relating to a commodity, which has operated or is likely to operate to the detriment or against the interests of the public.

The Combines Investigation Act, in Sect. 34, also forbids a supplier of goods from prescribing the prices at which they are to be resold by wholesalers and retailers, i.e., the practice of "resale price maintenance". The supplier may, however, suggest resale prices as long as he does nothing to induce or require the trade to adhere to them.

* Revised by T. D. MacDonald, Q.C., Director of Investigation and Research, Combines Investigation Act, Department of Justice, Ottawa.

Sect. 412 of the Criminal Code deals with what are commonly called "price discrimination" and "predatory price cutting". It provides that a supplier may not make a practice of discriminating among those of his trade customers who come into competition with each other, by giving one a preferred price which is not available to another if the second is willing to buy in like quantities and qualities as the first; and it also forbids a supplier from selling at prices lower in one locality than in another, or unreasonably low anywhere, if the purpose or effect of his actions is to lessen competition substantially or eliminate a competitor.

These provisions, Sects. 411 and 412 of the Criminal Code and Sects. 2, 32 and 34 of the Combines Investigation Act, contain the substantive law relating to restrictive trade practices. The other provisions of the Combines Investigation Act relate to investigation and enforcement.

The Act provides for a Director who is responsible for investigating combines and other restrictive practices, and a Commission (the Restrictive Trade Practices Commission) which is responsible for appraising the evidence submitted to it by the Director and the parties under investigation, and for making a report to the Minister. When there are reasonable grounds for believing that a forbidden practice is engaged in the Director may obtain from the Commission authorization to examine witnesses, search premises, or require written returns. After examining all the information available, if the Director believes that it proves the existence of a forbidden practice, he submits a statement of the evidence to the Commission and to the parties believed to be responsible for the practice. The Commission then sets a time and place at which it hears argument on behalf of the Director in support of his statement; and hears argument and receives evidence on behalf of any persons against whom allegations have been made in the statement. Following this hearing the Commission prepares and submits a report to the Minister, ordinarily required to be published within thirty days.

The Act also provides for general enquiries into restraints of trade which, while not forbidden or punishable, may affect the public interest. It further provides that the courts, in addition to imposing punishment for a contravention of the legislation, may make an order restraining persons from embarking on, continuing or repeating a contravention. The constitutionality of the Section providing for restraining orders, which was enacted in 1952, has been upheld by the Supreme Court of Canada.

In the years 1951-55 the following reports of enquiries under the legislation have been published:—

- (1) Manufacture, Distribution and Sale of Mechanical Rubber Goods; Tires and Tubes; Accessories and Repair Materials; Rubber Footwear; Heels and Soles; Vulcanized Rubber Clothing.
- (2) Distribution and Sale of Bread and Other Bakery Products in the Winnipeg Area, Manitoba.
- (3) Manufacture, Distribution and Sale of Fine Papers.
- (4) Distribution and Sale of Coarse Papers in British Columbia.
- (5) Purchase of Maple Syrup and Maple Sugar in the Province of Quebec.
- (6) Manufacture, Distribution and Sale of Electrical Wire and Cable Products.
- (7) Resale Price Maintenance in the Sale of Soap and Soap Products in the Montreal District.
- (8) Price Discrimination between Retail Hardware Dealers in North Bay, Ont.
- (9) Resale Price Maintenance in the Sale of Certain Household Supplies in the Chicoutimi-Lake St. John District, Que.
- (10) Distribution and Sale of Gasoline at Retail in the Vancouver Area.
- (11) Resale Price Maintenance in the Sale of China and Earthenware.
- (12) Resale Price Maintenance in the Distribution and Sale of Television Sets in the Toronto District.
- (13) Manufacture, Distribution and Sale of Wire Fencing in Canada.
- (14) Distribution and Sale of Coal in the Timmins-Schumacher area of the Province of Ontario.
- (15) Loss Leader Selling.

- (16) Manufacture, Distribution and Sale of Beer in Canada.
- (17) Manufacture, Distribution and Sale of Asphalt and Tar Roofings and Related Products in Canada.
- (18) Resale Price Maintenance in the Distribution and Sale of certain Household Appliances.
- (19) Manufacture, Distribution and Sale of Transmission and Conveyor Equipment and Related Products.

These reports are obtainable from the Queen's Printer or from the office of the Director of Investigation and Research, Ottawa.

Section 3.—Trade Standards*

The Standards Division of the Department of Trade and Commerce consolidates under one Director the administration of the Electricity Inspection Act, the Gas Inspection Act, the Exportation of Power and Fluids and Importation of Gas Act, the Precious Metals Marking Act, the Weights and Measures Act, and the National Trade Mark and True Labelling Act.

Commodity Standards.—On Nov. 26, 1949 Parliament passed the National Trade Mark and True Labelling Act (R.S.C. 1952, c. 191) which provides a framework for the development of the National Standard and true labelling in order to circumvent public deception in advertising. In brief the use of the National Standard is voluntary and compliance with commodity standards affects only those manufacturers who desire to use the national trade mark. In addition where manufacturers descriptively label any commodity or container, it must be labelled accurately to avoid public deception. The regulation applying to the labelling of fur garments for example has been established as a code of fair practice throughout the merchandising field.

Under the terms of the Precious Metals Marking Act 1946 (R.S.C. 1952, c. 215) commodities composed of gold, silver, platinum or palladium may be marked with a quality mark describing accurately the quality of the metal. Where such mark is used a trade mark registered in Canada, or for which application for registration has been made, must also be applied. Gold-plated or silver-plated articles may also be marked under certain conditions outlined in the Act. The inspection staff of the Standards Division is engaged in the examination of advertising matter, in verifying the quality of articles offered for sale, and in checking the marks applied.

Weights and Measures.—The Weights and Measures Act (R.S.C. 1952, c. 292) prescribes the legal standard of weight and measure for use in Canada. The Act requires control of the type of all weighing and measuring devices used for commercial purposes and their periodic verification and surveillance directed towards the elimination of sales by short weight or short measure. The number of inspections made in the year ended Mar. 31, 1955 was 454,796 compared with 478,227 in 1953-54. The more important inspections comprised the following: weighing machines, including scales of all kinds, 228,243; measuring machines for liquids 78,033; weights 127,114; other measures 21,406. Total expenditure was \$726,001 in 1954-55 compared with \$688,425 in 1953-54 and total revenue \$670,147 compared with \$658,466.

Electricity and Gas Inspection.—Responsibilities of the Standards Division under the Electricity Inspection Act (R.S.C. 1952, c. 94) and the Gas Inspection Act (R.S.C. 1952, c. 129) comprise the testing and stamping of every electricity and gas meter used throughout Canada for billing purposes, the object being to ensure the correct measurement of all electricity and gas sold. Canada is divided into 21 districts for administration of the two Acts and staff numbers 174. During the year ended Mar. 31, 1955, 1,154,438 electricity and gas meters were tested as compared with 1,079,711 in the preceding year. Revenue derived from the testing amounted to \$856,354, and expenditure to \$691,031.

* Prepared by R. W. MacLean, Director, Standards Division, Department of Trade and Commerce, Ottawa.

1.—Electricity and Gas Meters in Use, Years Ended Mar. 31, 1946-55

Year	Electricity Meters	Gas Meters			
		Manufactured Gas	Natural Gas	Petroleum Gas	Total
	No.	No.	No.	No.	No.
1946.....	2,459,672	550,949	215,330	1,651	767,934
1947.....	2,647,040	560,046	225,952	1,725	787,727
1948.....	2,746,685	587,629	217,068	1,046	805,746
1949.....	2,972,725	600,923	227,393	4,006	832,325
1950 ¹	3,188,013	606,395	239,448	3,841	849,688
1951.....	3,405,432	610,096	252,468	33	862,602
1952.....	3,590,422	609,262	263,130	68	872,465
1953.....	3,779,739	599,140	277,248	1,270	877,663
1954.....	3,967,952	593,608	298,166	429	892,297
1955.....	4,175,534	420,432	486,768	536	907,736

¹ Newfoundland included from 1950.

The Exportation of Power and Fluids and Importation of Gas Act (3-4 Elizabeth II, c. 14) was passed in 1955 to replace the Electricity and Fluid Exportation Act which came into force in 1907. Under its provisions no electric energy or fluid, whether liquid or gaseous, may be exported from Canada, nor gas be imported into Canada, without a licence. Total exports of electric energy during the year ended Mar. 31, 1955 amounted to 3,390,329,790 kwh. There was also a small export of natural gas and crude oil.

Section 4.—Patents, Copyrights and Trade Marks*

Letters patent are issued subject to the provisions of the Patent Act, (R.S.C. 1952, c. 203) effective since 1935. Applications for protection relating to patents should be addressed to the Commissioner of Patents, Ottawa.

2.—Patents Applied for, Granted, etc., Years Ended Mar. 31, 1951-55

Item	1951	1952	1953	1954	1955
Applications for patents..... No.	14,324	15,448	16,405	18,565	19,448
Patents granted..... " "	8,461	9,516	9,700	9,414	10,282
Granted to Canadians..... " "	627	708	742	606	570
Caveats granted..... " "	391	253	243	288	337
Assignments..... " "	11,437	11,621	12,525	13,127	20,062
Fees received, net..... \$	661,069	728,241	756,714	847,874	1,086,278

The number of Canadian patents granted increased fairly steadily each year from 4,522 at the beginning of the century to a peak of 12,542 in 1923 and has remained between 6,500 and 10,000 for the past ten years. Of the 10,282 granted in 1954-55, 7,719 or 75 p.c. were to inventors resident in the United States, 570 to Canadian residents and 1,009 to residents of the United Kingdom or other Commonwealth countries. Residents of France obtained 190, of Switzerland 166, of the Netherlands 191 and of other countries 437.

Printed copies of patents issued from Jan. 1, 1949 to date are available at a nominal fee. The Canadian *Patent Office Record* gives a brief digest of each patent.

Canadian and foreign patents may be consulted at the Patent Office Library. The Library has records of British patents and abridged specifications thereof from 1617 to date, and of United States patents from 1872 to date, as well as many patents, indexes, journals and reports from Australia, New Zealand, South Africa, India, Pakistan, France, Belgium, Austria, Norway, Mexico, Italy, Sweden, the Netherlands, Switzerland, Japan, Korea and Brazil.

* The material relating to patents and copyrights was revised by J. W. T. Michel, Commissioner of Patents, and that relating to trade marks by J. P. McCaffrey, Registrar of Trade Marks, Department of the Secretary of State, Ottawa.

Copyrights, Industrial Designs and Timber Marks.—Registration of copyright is governed by the Copyright Act (R.S.C. 1952, c. 55) in force since 1921. Applications for protection relating to copyrights should be addressed to the Commissioner of Patents, Ottawa.

The Act sets out the qualifications for a copyright and its duration: "Copyrights shall subsist in Canada ...in every original literary, dramatic, musical and artistic work, if the author was, at the date of the making of the work, a British subject, a citizen or subject of a foreign country which has adhered to the Berne Convention and the additional Protocol ...or resident within Her Majesty's Dominions. The term for which the copyright shall subsist shall, except as otherwise expressly provided by this Act, be the life of the author and a period of fifty years after his death".

Copyright protection is extended to records, perforated rolls, cinematographic films, and other contrivances by means of which a work may be mechanically performed. The intention of the Act is to enable Canadian authors to obtain full copyright protection in Canada, in all parts of the Commonwealth, in foreign countries of the Copyright Union and in the United States of America.

Protection of industrial designs and of timber marks is afforded under the Trade Mark and Union Label Act and the Timber Marking Act. Registers of such designs and marks are kept by the Copyright Branch of the Patent Office and information regarding them is published in the Canadian *Patent Office Record*.

3.—Copyrights, Industrial Designs and Timber Marks Registered, Years Ended Mar. 31, 1951-55

Item		1951	1952	1953	1954	1955
Copyrights registered.....	No.	4,700	4,676	4,976	5,060	5,193
Industrial designs registered.....	"	628	480	431	560	286
Timber marks registered.....	"	4	10	1	2	10
Assignments registered.....	"	512	497	523	548	617
Fees received, net.....	\$	19,848	19,382	20,681	21,181	21,324

Trade Marks.—The Trade Marks Office, a Branch of the Department of the Secretary of State, is charged with the administration of the Trade Marks Act (1-2 Elizabeth II, c. 49) which covers all legislation concerning the registration and use of trade marks and supersedes from July 1, 1954 former legislation enacted under the Unfair Competition Act, the Industrial Design and Union Label Act and the Shop Cards Registration Act. All correspondence relating to an application for registration of a trade mark or for the use of a trade mark should be addressed to the Registrar of Trade Marks, Ottawa.

A *Trade Marks Journal* is published weekly giving particulars of every registration of a trade mark and every registration of a registered user, as well as other advertisements and rulings required under the Act. The required fee payable on application for registration of a trade mark is \$25 and for registration of a person as a registered user of a trade mark, \$20.

4.—Trade Marks Registered, Years Ended Mar. 31, 1951-55

Item		1951	1952	1953	1954	1955
Trade marks registered.....	No.	3,309	2,806	2,981	3,832	3,377
Trade mark registrations assigned.....	"	1,665	1,535	1,499	2,063	2,040
Trade mark registrations renewed.....	"	2,085	2,266	2,139	1,963	2,812
Certified copies prepared.....	"	699	619	541	590	678
Fees received, net.....	\$	132,744	127,053	138,524	159,191	222,029

Section 5.—Subventions and Bounties on Coal*

The major problem of the Canadian coal mining industry arises from the fact that its fields are situated far distant from the main consuming markets of the Provinces of Ontario and Quebec while these markets lie in close proximity to the bituminous and anthracite fields of the United States. Transportation subventions, which have been maintained in varying degree during the past 25 years, were designed to further the movement of Canadian coals to some portions of central Canada by equalizing as far as possible the laid-down costs of Canadian coals with imported coals. Subventions have been regulated by Orders in Council as it has not been considered practicable to fix the assistance by statute owing to the frequent changes in the competitive situation.

5.—Expenditure for Coal Subventions by Province 1950-54

Province		1950	1951	1952	1953	1954
Nova Scotia.....	ton	1,165,719	2,286,537	1,897,451	1,874,410	2,561,321
	\$	1,005,438	3,074,466	5,194,288	6,101,714	8,790,557
New Brunswick.....	ton	2,314	2,709	2,851	8,981	58,036
	\$	1,939	2,634	3,780	7,853	141,513
Saskatchewan.....	ton	173,694	165,086	139,555	187,113	256,597
	\$	125,767	126,042	113,645	161,439	218,341
Alberta and eastern British Columbia.....	ton	785,148	589,581	613,651	606,749	998,558
	\$	1,482,202	1,163,937	1,161,810	946,638	2,982,347
British Columbia bunker and export.....	ton	6,092	91,611	59,254	1,592	709
	\$	4,569	88,551	56,580	1,194	532
Totals.....	ton	2,132,970	3,135,523	2,712,762	2,678,850	3,875,221
	\$	2,619,915	4,455,629	6,530,103	7,218,838	12,133,290

The Canadian Coal Equality Act (R.S.C. 1952, c. 34—formerly known as the Coke Bounty Act) implemented one of the recommendations of the Royal Commission on Maritime Claims and was approved by Parliament on May 30, 1930. The bounty is paid on Canadian coal converted to coke and used in the manufacture of Canadian iron and steel and places the coal on a basis of equality with imported coal.

Bounties paid under this authority for the years 1950-54 were as follows:—

Item		1950	1951	1952	1953	1954
Quantity.....	ton	830,752	810,608	698,449	773,102	492,196
Amount.....	\$	411,222	401,251	345,732	382,685	243,637

Section 6.—Control and Sale of Alcoholic Beverages

The retail sale of alcoholic beverages in Canada is controlled by provincial and territorial government liquor control authorities. Alcoholic beverages are sold directly by most of these liquor control authorities to the consumer or to licensees for resale. However in some provinces beer and wine are sold directly by breweries and wineries to consumers or to licensees for resale. During the year ended Mar. 31, 1954 provincial government liquor control authorities operated 674 retail stores.

Table 6 shows revenue from administration of liquor control by provincial and territorial governments. Further details are given in DBS report, *The Control and Sale of Alcoholic Beverages in Canada* (fiscal year ended Mar. 31, 1954).

* Prepared by H. H. Harris, Administrative Officer, Dominion Coal Board, Ottawa. Additional information on subventions and bounties, summarized from the *Report of the Royal Commission on Coal, 1946*, is given in the 1947 Year Book, pp. 770-771.

6.—Provincial Revenue from Administration of Liquor Control, Year Ended Mar. 31, 1954 and Totals for 1953

NOTE.—Figures include revenue collected directly by the provincial and territorial governments as well as revenues of the liquor authorities, but exclude general sales tax.

Province or Territory	Net Income from Retail Sales ¹	Taxes	Licences and Permits ²	Fines and Confiscations ²	Commission on General Sales Tax Collections	Total Revenue Mar. 31—	
						1954	1953
	\$	\$	\$	\$	\$	\$	\$
Newfoundland.....	2,198,666	...	891,055 ³	21,519	3,749	3,114,989	2,824,420
Prince Edward Island..	870,459	270,147	27,531	14,650	...	1,182,787	1,219,256
Nova Scotia.....	9,458,176	...	289,293	68,596	...	9,816,065	9,531,082
New Brunswick.....	6,428,953	...	15,293	25,193	20,905	6,490,344	6,426,287
Quebec.....	21,774,558	1,524,435	12,160,310	250,508	...	35,709,811	35,288,898
Ontario.....	32,019,215	...	14,918,509	98,748	...	47,036,472	47,690,999
Manitoba.....	6,481,253	...	2,153,030	85,716	...	8,719,999	8,556,538
Saskatchewan.....	11,175,891	...	108,734 ⁴	74,341	49,238	11,408,204	11,060,070
Alberta.....	14,420,155	...	1,016,267	206,647	...	15,643,069	15,156,938
British Columbia.....	21,034,671	...	302,676	...	49,224	21,386,571	20,882,949
Totals.....	125,861,997	1,794,582	31,882,698	845,918	123,116	160,508,311	158,637,437
Yukon Territory.....	660,005	69,349	6,600	6,100	...	742,054	712,539 ²
Northwest Territories..	260,507	...	4,739	1,873	...	267,119	289,325
Canada.....	126,782,509	1,863,931	31,894,037	853,891	123,116	161,517,484	159,639,301

¹ After provision for depreciation on fixed assets or for capital expenditure met out of operating income as follows: Nfld. \$1,959; P.E.I. \$1,000; N.S. \$40,739; N.B. \$10,508; Que. \$92,435; Ont. \$3,562,904; Man. \$16,001; Sask. \$31,029; Alta. \$74,721; and B.C. \$127,485. Also deducted are expenses incurred by liquor authorities in the collection of other revenue.

² Before deducting any payments to municipalities out of liquor control authority revenue.

³ Includes \$818,607 commission on beer sold direct from local provincial breweries to the public through licensed outlets under controlled price.

⁴ Includes commission on liquor sold at Yellowknife and Fort Smith, N.W.T.

of \$46,008.

Specified revenue of the Government of Canada from alcoholic beverages comprising excise duties, excise taxes, customs duties and certain fees and licences in that connection are shown in Table 7. Federal Government revenues from the general sales tax on alcoholic beverages are not available.

7.—Specified Revenue of the Federal Government from Alcoholic Beverages, Years Ended Mar. 31, 1950-54

NOTE.—Figures exclude revenue from the 10 p.c. sales tax which is not available by commodities.

Nature of Levy	1950	1951	1952	1953	1954
	\$	\$	\$	\$	\$
On Spirits.....	71,594,511	92,217,597	82,096,567	94,186,963	97,255,877
Excise duty ¹	46,547,587	60,126,300	42,066,718	41,058,349	49,053,239
Validation fees.....	790,587	1,108,252	1,223,932	746,877	²
Licences.....	7,250	8,000	7,375	7,750	7,500
Import duty.....	27,249,087	30,975,045	38,798,542	52,378,987	47,745,138
On Malt and Malt Products.....	59,754,546	68,234,475	77,670,484	85,996,795	83,656,336
Excise duty on—					
Beer.....	3,678,316	2,745,851	3,812,065	5,294,283	4,799,823
Malt.....	56,018,292	65,409,427	73,748,003	80,584,283	78,733,288
Beer licence.....	3,550	3,650	3,500	3,600	3,350
Import duty on beer.....	54,388	75,547	106,916	114,629	119,875
On Wine.....	2,713,057	2,921,321	2,939,000	3,095,441	3,216,033
Excise taxes.....	2,125,606	2,224,885	2,167,267	2,215,540	2,230,673
Import duty.....	587,451	696,436	771,733	879,901	985,360
Totals.....	137,062,114	163,373,393	162,706,051	183,279,199	184,128,246

¹ Collections on liquor imported for blending purposes are included with import duty.

² Abolished.

³ Other than malt beer.

Value of Sales of Alcoholic Beverages.—The figures in Table 8 do not represent the final retail selling price of alcoholic beverages because when sold to licensees, only the selling price to the licensee is known. Furthermore these sales figures should not be construed as representing the amount spent by individual Canadian consumers because sales to non-residents visiting Canada and sales to businesses, governments and foreign embassies in Canada are included.

8.—Value of Sales of Alcoholic Beverages, Years Ended Mar. 31, 1953 and 1954

Province or Territory	Spirits		Wines		Beer		Total	
	1953	1954	1953	1954	1953	1954	1953	1954
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	3,772	3,978	356	360	5,941	7,206	10,069	11,544
Prince Edward Island.....		1,900		149		922	2,736	2,971
Nova Scotia.....	12,212	12,951	1,835	1,864	11,955	12,037	26,002	28,852
New Brunswick.....	9,167	8,927	1,644	1,547	7,046	7,253	17,857	17,727
Quebec.....	60,647	59,521	8,342	8,700	86,057	88,277	155,046	156,498
Ontario.....	99,090	104,122	11,416	11,824	164,722	172,458	275,228	288,404
Manitoba.....	13,836	14,320	1,636	1,598	20,200	20,909	35,672	36,827
Saskatchewan.....	13,590	14,616	1,928	1,751	21,736	22,752	37,254	39,119
Alberta.....	22,220	23,946	1,815	1,943	27,629	28,096	51,664	53,985
British Columbia.....	40,064	41,178	2,549	2,942	28,217	27,826	70,830	71,946
Yukon.....	1,020	1,017	41	41	746	802	1,807	1,860
Northwest Territories.....	438	411	23	28	305	294	766	733
Canada.....	276,056	286,887	31,585	32,747	374,554	388,832	684,931	708,466

PART III.—BANKRUPTCIES AND COMMERCIAL FAILURES

The three Sections of this Part, although closely related as far as subject matter is concerned, cover different aspects of the field of bankruptcies and commercial failures and the statistics presented in each Section are not comparable with those given in the other Sections.

Section 1 is limited to the administration of bankrupt estates by the Superintendent of Bankruptcy under the Bankruptcy Act (including the Farmers' Creditors Arrangement Act). This Section however gives definite information on the amounts realized from the assets as established by debtors and indicates that values actually paid to creditors are invariably very much lower than such estimates alone would imply. It can therefore be assumed that this applies in even greater degree to the more extended fields covered in Sections 2 and 3.

Section 2 on the other hand is limited to bankruptcies and insolvencies made under federal legislation (the Bankruptcy Act and the Winding-Up Act) but not failures, sales or seizures carried out apart from such federal legislation. The Dominion Bureau of Statistics figures include failures of individuals such as wage earners. For recent years separate data are shown for insolvencies by wage earners as distinct from industrial and commercial mortalities. The figures of assets and liabilities are estimates made by the debtor and because they are not made uniformly should be accepted with reservations.

The statistics given in Section 3 are compiled by Dun and Bradstreet, Incorporated. This mercantile agency is interested primarily in credit information and their statistics include bankruptcies in general, insolvencies under provincial companies' Acts and such proceedings as bulk sales, bailiff's sales, landlord's seizures, etc., when loss to creditors results. On the other hand the statistics do not include assignments of individuals, so that as a rule the totals run lower than those in Section 2. Since between the years 1875 and 1919 this agency was the only source of figures of commercial failures their statistics have an added value because they present a historical series back to 1915 though the basis of classification was changed after 1933 (see text preceding Table 7, p. 955).

Section 1.—Administration of Bankrupt Estates*

Federal insolvency legislation now comprises the Bankruptcy Act 1949 (R.S.C. 1952, c. 14), the Farmers' Creditors Arrangement Act 1943 (R.S.C. 1952, c. 111), the Companies' Creditors Arrangement Act and to some extent the Winding-Up Act. The two Arrangement Acts are designed to avert failure and the statistics in this Section and in Section 2 therefore do not include proposals or arrangements under these Acts. When such proposals or arrangements are rejected by the creditors or fail in their purpose the proceedings may then come under the Bankruptcy Act, the bankruptcy provisions of the Farmers' Creditors Arrangement Act and, in certain circumstances, the Winding-Up Act. There are no provisions in the Companies' Creditors Arrangement Act for the liquidation or winding-up of insolvent companies.

The Bankruptcy Act 1949, under which the Bankruptcy Act 1919 and amendments thereto is repealed, restores to all insolvent persons the right to make a proposal prior to bankruptcy. The summary administration provisions of the Act enable insolvent persons, other than corporations, having limited assets to obtain the benefit of the Act. A new principle has also been established in regard to the discharge of bankrupts and the Act provides that "the making of a receiving order against, or an assignment by, any person except a corporation operates as an application for discharge" unless a waiver is filed in court and served upon the trustee within the prescribed delays.

The administration of bankrupt estates is supervised by the Superintendent of Bankruptcy, first appointed in 1932, with the object of conserving as far as possible the assets of bankrupt estates for the benefit of the creditors.

* Prepared by the Superintendent of Bankruptcy, Ottawa. Early bankruptcy and insolvency legislation is reviewed in the 1952-53 Year Book, pp. 914-915.

1.—Assets, Liabilities, Assets Realized and Cost of Administration under the Bankruptcy Act by Province 1954

NOTE.—This series began with the year 1951; figures for 1951 are given in the 1954 Year Book, p. 955, and those for 1952 and 1953 in the 1955 edition, p. 1019. The former series of statistics collected on estates closed under the Bankruptcy Act 1919 are given in the 1947 Year Book, p. 846, and the 1952-53 edition, p. 915.

Province and Year	Estates Closed	Assets Estimated by Debtors	Liabilities Estimated by Debtors	Total Realization	Cost of Administration	Paid to Creditors
BANKRUPTCIES UNDER GENERAL PROVISIONS OF THE ACT ¹						
	No.	\$	\$	\$	\$	\$
Newfoundland.....	7	208,711	218,316	68,223	16,726	51,497
Nova Scotia.....	12	150,005	268,685	36,855	13,657	23,198
New Brunswick.....	17	141,783	560,671	43,991	11,703	32,288
Prince Edward Island.....	2	111,524	69,477	9,220	2,049	7,171
Quebec.....	986	7,282,346	19,599,359	2,010,961	777,640	1,233,321
Ontario.....	207	3,931,599	6,130,514	1,137,748	342,421	795,327
Manitoba.....	13	201,095	323,136	70,073	15,275	54,798
Saskatchewan.....	13	183,493	258,884	78,622	26,176	52,446
Alberta.....	20	484,547	617,477	152,348	56,746	95,602
British Columbia.....	59	916,912	1,676,690	478,954	116,114	362,840
Totals.....	1,336	13,612,015	29,723,209	4,086,995	1,378,507	2,708,488²
PROPOSALS UNDER SECT. 27 (1) (a) OF THE ACT						
	Proposals Completed	Unsecured Liabilities as Estimated by Debtors		Paid to Unsecured Creditors		
	No.	\$		\$		
Quebec.....	62	1,599,388		480,519		
Ontario.....	11	485,840		182,940		
Saskatchewan.....	1	103,900		21,859		
British Columbia.....	2	34,503		21,117		
Totals.....	76	2,223,631		706,435²		

¹ Includes summary administration provisions of the Bankruptcy Act.

² In addition to the amount paid to creditors by the trustee, secured creditors realized direct from their security approximately \$5,404,104 in 1953 and \$4,789,413 in 1954.

Summary statistics of estates closed under the Farmers' Creditors Arrangement Act are available in previous editions of the Year Book beginning with the 1947 edition. From the time the Act first came into effect on Sept. 1, 1934 to the end of 1949 there were 885 assignments and 39 receiving orders, or a total of 924 estates closed. No assignments or receiving orders were reported under the Act in 1951 or 1952 but one case was completed during 1952. During the year 1954 two new estates were reported but none of the cases under administration were completed.

Section 2.—Returns under the Bankruptcy and Winding-Up Acts as Compiled by the Dominion Bureau of Statistics

As stated on p. 950, the figures in this Section cover only the bankruptcies and insolvencies under federal legislation—the Bankruptcy Act and the Winding-Up Act—and include assignments of individuals such as wage earners.

Under the Bankruptcy and Winding-Up Acts (R.S.C. 1952, cc. 14 and 296), certain documents relating to estates administered under these Acts have, since July 1920, been forwarded to the Dominion Statistician for statistical analysis. A statistical series began with 1923 except for the analysis by branches of business which began in 1924. However changes in the administration of bankruptcies introduced by the Bankruptcy Act of 1949 (see p. 951) affected the comparability of the series. In that Act provision was made for proposals from insolvent persons and, since July 1950, agreements made under this method are not included with the statistics of bankruptcies. In Table 2 the number of proposals are shown so as to give a general impression of the trend.

2.—Bankruptcies and Insolvencies under Federal Legislation by Province 1945-54

NOTE.—Figures from 1923 are given in the corresponding table of previous Year Books beginning with the 1941 edition.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1945.....	...	1	3	1	225	27	3	—	4	8	272
1946.....	...	1	3	2	236	20	—	—	4	12	278
1947.....	...	2	6	7	422	72	4	2	6	24	545
1948.....	...	1	9	13	613	116	8	4	8	41	813
1949.....	..	3	4	12	827	131	16	5	13	55	1,066
1950.....	3	8	17	20	967	186	16	9	16	61	1,303
1951.....	5	3	12	24	1,022	227	15	13	14	64	1,399
1952.....	9	—	17	14	1,167	220	13	8	13	48	1,509
1953.....	4	1	9	16	1,221	255	27	19	33	72	1,657
1954.....	4	2	19	20	1,645	414	27	30	44	73	2,278
Proposals— ¹											
1950.....	—	—	—	2	66	7	1	—	—	3	79
1951.....	—	—	1	3	160	8	—	—	—	4	176
1952.....	—	—	—	1	172	15	—	—	—	3	191
1953.....	—	—	—	—	158	9	2	—	1	1	171
1954.....	1	—	—	—	416	29	4	1	1	4	456

¹ See text above.

Wage earner failures have been shown separately since 1949 and are given by area in Table 3.

3.—Wage Earner Failures by Area 1950-54

Year	Atlantic Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Total
	No.	No.	No.	No.	No.	No.
1950.....	—	121	9	—	2	132
1951.....	2	148	11	—	2	163
1952.....	—	155	8	—	2	165
1953.....	—	154	9	—	1	164
1954.....	—	226	31	1	2	260

4.—Bankruptcies and Insolvencies under Federal Legislation by Branch of Business 1945-54

NOTE.—Figures from 1924 are given in the corresponding table of previous Year Books beginning with the 1942 edition.

Year	Trade	Manu- fac- turing	Agri- culture	Logging and Fishing	Mining	Con- struc- tion	Trans- porta- tion and Public Utili- ties	Finance	Service	Not Classi- fied	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1945.....	58	54	2	—	3	39	12	6	70	28	272
1946.....	77	57	2	4	3	32	14	7	64	18	278
1947.....	153	152	6	7	—	57	20	5	92	53	545
1948.....	289	188	9	4	3	77	30	4	144	65	813
1949.....	374	232	8	10	10	94	46	19	203	70	1,066
1950 ¹	502	257	24	7	5	97	40	20	273	78	1,303
1951.....	570	269	20	8	8	126	42	27	255	74	1,399
1952.....	569	305	42	2	7	114	45	32	279	114	1,509
1953.....	650	359	37	6	10	124	52	30	286	103	1,657
1954.....	973	416	48	17	15	135	67	41	408	158	2,278

¹ Newfoundland included from 1950.

5.—Estimated Assets and Liabilities of Bankruptcies and Insolvencies 1945-54

NOTE.—Figures from 1923 are given in the corresponding table of previous Year Books beginning with the 1942 edition.

Year	Estimated Total Assets	Estimated Total Liabilities	Year	Estimated Total Assets	Estimated Total Liabilities
	\$	\$		\$	\$
1945.....	1,864,359	3,995,109	1950 ¹	17,168,883	24,872,927
1946.....	4,039,339	5,966,153	1951.....	18,237,768	25,912,004
1947.....	5,933,211	10,077,557	1952.....	20,381,304	29,658,281
1948.....	9,855,789	15,723,615	1953.....	21,899,349	32,817,970
1949.....	15,548,598	21,355,669	1954.....	38,370,462	53,142,000

¹ Newfoundland included from 1950.

6.—Bankruptcies and Insolvencies by Industries and Economic Areas 1953 and 1954

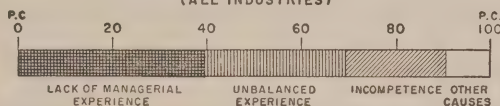
Industry	1953						1954					
	At- lantic Prov- inces	Que.	Ont.	Prairie Prov- inces	B.C.	Total	At- lantic Prov- inces	Que.	Ont.	Prairie Prov- inces	B.C.	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Trade	15	451	120	29	35	650	23	683	184	53	30	973
General stores.....	6	44	7	2	3	62	6	58	20	5	3	92
Grocery.....	—	46	13	1	1	61	3	67	14	1	3	88
Confectionery.....	—	19	2	—	—	21	2	45	8	—	1	56
Drink and tobacco.....	—	11	1	—	—	12	—	19	—	1	—	20
Fish and meat.....	—	31	7	1	4	43	—	49	7	1	1	58
Boots and shoes.....	—	14	3	—	—	17	—	24	2	2	1	29
Dry goods.....	3	28	1	—	—	32	—	47	5	—	—	52
Clothing.....	2	50	19	2	13	86	2	73	29	8	4	116
Furniture.....	—	25	3	2	—	30	—	31	10	2	1	44
Books and stationery.....	—	16	1	—	—	17	—	35	4	3	1	43
Automobile.....	1	18	6	5	—	30	1	34	17	6	2	60
Hardware.....	—	14	5	1	—	20	1	23	2	3	—	29
Electrical apparatus.....	—	26	18	3	3	50	—	43	25	3	—	71
Jewellery.....	—	22	11	1	2	36	1	21	2	2	1	27
Coal and wood.....	—	14	1	—	—	15	—	24	4	2	1	31
Drugs and chemicals.....	—	16	1	2	2	21	—	21	4	2	2	29
Miscellaneous.....	3	57	21	9	7	97	7	69	31	12	9	128
Manufacturing	4	286	44	15	10	359	3	323	71	11	8	416
Vegetable foods.....	2	31	7	1	—	41	—	36	8	—	—	44
Drink and tobacco.....	—	1	—	—	—	1	—	3	—	—	—	3
Animal foods.....	—	21	—	1	—	22	—	28	6	—	—	34
Fur and leather.....	—	20	6	2	1	29	—	24	5	2	—	31
Pulp and paper.....	—	12	—	—	—	12	1	21	6	—	1	29
Textiles.....	—	52	4	—	—	56	—	38	8	—	—	46
Clothing.....	—	40	7	2	1	50	—	50	9	2	—	61
Lumber and manufactures	2	32	4	2	5	45	1	38	8	2	7	56
Iron and steel.....	—	10	6	1	1	18	—	15	4	—	—	19
Non-ferrous metals.....	—	9	2	1	2	14	—	15	4	—	—	19
Non-metallic minerals.....	—	9	2	—	—	11	—	12	—	—	—	12
Drugs and chemicals.....	—	5	1	—	—	6	—	6	—	—	—	6
Miscellaneous.....	—	44	5	5	—	54	1	37	13	5	—	56
Service	6	230	33	8	9	286	3	303	73	19	10	408
Garages.....	1	39	8	1	2	51	—	49	17	6	—	72
Other custom and repairs.....	1	38	7	1	2	49	2	57	22	4	3	88
Personal service.....	1	41	2	—	1	45	—	62	10	4	1	77
Restaurants.....	3	43	4	1	3	54	—	46	9	2	3	60
Professional service.....	—	29	7	2	—	38	—	34	3	—	2	39
Recreational.....	—	19	2	—	1	22	—	23	4	1	—	28
Business service.....	—	21	3	3	—	27	1	32	8	2	1	44
Other	2	186	43	13	15	259	5	225	62	17	14	323
Agriculture.....	—	31	5	1	—	37	2	35	11	—	—	48
Mining.....	—	5	1	1	3	10	—	10	3	2	—	15
Logging, fishing and trap- ping.....	—	4	—	—	2	6	1	10	2	1	3	17
Construction.....	2	84	29	3	6	124	2	85	32	11	5	135
Transportation and public utilities.....	—	36	8	5	3	52	—	50	8	3	6	67
Finance.....	—	26	—	3	1	30	—	35	6	—	—	41
Not classified	3	68	15	14	3	103	11	111	24	1	11	158
Totals	30	1,221	255	79	72	1,657	45	1,645	414	101	73	2,278

Section 3.—Statistics of Industrial and Commercial Failures from Private Sources

A table showing commercial failures by class for the years 1915 to 1935 (and for Newfoundland for the years 1915-32) is given in the 1936 Year Book, p. 969. In 1936 Dun and Bradstreet, Incorporated, from whose reports these figures were taken, adopted a new method of classification. The principal changes consisted of setting up a new group of construction enterprises previously included in manufacturing, and a new class for commercial service. Real estate companies, holding and other financial companies, and agents of various kinds were omitted. These changes had the effect of confining the failure records more to industrial and commercial lines of activity, and liabilities were reduced more in proportion to the number of failures, since the companies eliminated usually ran high in indebtedness. This series extends back to 1934.

INDUSTRIAL AND COMMERCIAL FAILURES 1900 - 55

CAUSES OF FAILURE 1955 (ALL INDUSTRIES)



RATE PER 10,000 BUSINESSES

RATE PER 10,000 BUSINESSES



7.—Industrial and Commercial Failures by Class 1948-53 and by Province 1954

(Source: Dun and Bradstreet, Incorporated)

NOTE.—Figures from 1934 are given in the corresponding table of previous Year Books beginning with the 1937 edition.

Year and Province	Manu- facturing		Wholesale Trade		Retail Trade		Con- struction		Commercial Service		Totals	
	No.	Lia- bilities	No.	Lia- bilities	No.	Lia- bilities	No.	Lia- bilities	No.	Lia- bilities	No.	Lia- bilities
		\$'000		\$'000		\$'000		\$'000		\$'000		\$'000
1948.....	158	6,734	62	1,395	198	2,278	48	899	27	449	493	11,755
1949 ¹	177	8,406	69	3,516	247	3,252	63	1,329	40	776	596	17,279
1950.....	159	6,479	70	1,746	349	4,347	89	1,415	50	1,405	717	15,392
1951.....	174	6,409	72	2,892	387	5,693	116	2,560	48	1,494	797	19,048
1952.....	205	7,787	73	2,285	418	6,885	106	2,196	41	670	843	19,823
1953.....	185	8,943	85	3,605	568	11,779	142	4,477	59	1,500	1,039	30,304
1954												
Newfoundland.....	—	—	2	34	5	160	—	—	1	50	8	244
P. E. Island.....	—	—	1	27	8	—	—	—	—	—	1	27
Nova Scotia.....	1	50	2	125	—	158	5	126	—	—	16	459
New Brunswick.....	2	38	2	34	17	515	—	—	—	—	22	589
Quebec.....	148	8,206	83	2,434	417	7,856	116	5,527	52	825	816	24,848
Ontario.....	86	9,967	30	976	165	3,745	54	2,674	27	764	362	18,126
Manitoba.....	9	657	5	440	13	626	4	140	2	101	33	1,964
Saskatchewan.....	—	—	1	5	17	570	2	27	—	—	20	602
Alberta.....	7	859	6	148	16	476	10	389	2	151	41	2,023
British Columbia.....	13	1,820	6	171	30	896	8	147	5	101	62	3,135
Totals, 1954.....	266	21,597	138	4,394	688	15,002	199	9,030	90	1,994	1,381	52,017

¹ Newfoundland included from Apr. 1, 1949.

In 1954 Quebec accounted for 59 p.c. of the total failures and 48 p.c. of the liabilities; Ontario had 26 p.c. of the failures and 35 p.c. of the liabilities.

According to Dun and Bradstreet, Incorporated, commercial failures during World War II decreased steadily year by year and failures in the retail trade group, in which the majority of failures took place before the War, also decreased. After the end of the War however the total number of failures increased again. Those in the retail trade group in 1954 accounted for one-half of the total.

8.—Industrial and Commercial Failures by Industrial Group 1952-54

(Source: Dun and Bradstreet, Incorporated)

NOTE.—Comparable figures from 1934 are given in the corresponding table of previous Year Books beginning with the 1937 edition.

Industrial Group	Failures			Liabilities		
	1952	1953	1954	1952	1953	1954
	No.	No.	No.	\$'000	\$'000	\$'000
Manufacturing.....	205	185	266	7,787	8,943	21,597
Foods.....	21	12	26	863	705	1,014
Textiles.....	60	62	83	2,459	2,810	7,320
Forest products.....	40	42	58	1,728	1,327	3,736
Paper, printing and publishing.....	12	7	12	484	147	372
Chemicals and drugs.....	6	3	6	185	254	138
Fuels.....	—	2	6	—	586	814
Leather and leather products.....	12	5	11	436	94	3,051
Stone, clay, glass and products.....	7	2	7	304	35	513
Iron and steel.....	4	7	8	92	1,132	658
Machinery.....	13	8	16	299	445	2,387
Transportation equipment.....	2	2	6	100	262	242
All other.....	28	33	27	837	1,146	1,352

8.—Industrial and Commercial Failures by Industrial Group 1952-54—concluded

Industrial Group	Failures			Liabilities		
	1952	1953	1954	1952	1953	1954
	No.	No.	No.	\$'000	\$'000	\$'000
Wholesale Trade	73	85	138	2,283	3,605	4,394
Farm products, foods, groceries.....	22	19	24	477	616	908
Clothing and furnishings.....	3	4	8	253	125	425
Dry goods and textiles.....	8	13	24	139	929	707
Lumber, building materials, hardware.....	7	10	9	286	609	289
Chemicals and drugs.....	3	5	6	15	216	105
Fuels.....	—	—	—	—	—	—
Automotive products.....	2	3	6	17	66	235
All other.....	28	31	61	1,098	1,044	1,725
Retail Trade	418	563	683	6,885	11,779	15,002
Foods.....	102	117	121	1,233	1,419	1,506
Farm supplies, general stores.....	16	30	22	200	634	344
General merchandise.....	23	25	32	212	446	584
Apparel.....	60	78	116	880	1,442	2,305
Furniture, household furniture.....	36	64	116	854	2,716	3,311
Lumber, building materials, hardware.....	24	35	33	558	573	739
Automotive products.....	58	85	109	1,720	3,287	3,768
Restaurants.....	55	71	76	534	604	1,134
Drugs.....	8	7	10	172	83	78
All other.....	36	56	53	522	575	1,233
Construction	106	142	199	2,196	4,477	9,030
General contractors.....	49	59	86	1,267	2,028	3,953
Carpenters and builders.....	9	7	11	56	166	377
Building sub-contractors.....	46	74	97	841	1,931	3,508
Other contractors.....	2	2	5	32	352	1,192
Commercial Service	41	59	90	670	1,500	1,994
Cleaners and dyers, tailors.....	5	7	11	60	51	88
Haulage, buses, taxis, etc.....	14	13	34	213	322	1,027
Hotels.....	7	6	6	146	92	273
Laundries.....	2	2	2	146	8	125
Undertakers.....	—	3	—	—	564	—
All other.....	13	28	37	105	463	481
Totals	843	1,039	1,381	19,823	30,304	52,017

CHAPTER XXII.—FOREIGN TRADE

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

The subject of foreign trade covers more than the treatment of imports and exports of commodities, important though this is. In its broader sense foreign trade is made up of the total international exchanges of goods, services, securities and other financial exchanges, all of which are presented in their proper relationship in this Chapter. Following Part I, which is a review of Canada's trade during the period 1953-55, Part II gives detailed statistics of external commodity trade. Part III summarizes external transactions from the standpoint of the balance of international payments. Part IV outlines the various ways in which the Federal Government promotes and encourages trade relationships, and contains a brief review of the Canadian tariff structure.

PART I.—REVIEW OF FOREIGN TRADE*

In 1954 and 1955 world trade recovered from the mild recession that followed the end of the Korean war. The value of trade in 1954 was almost 4 p.c. greater than in the trough year 1953, and a further substantial advance is indicated for 1955. The volume of world trade had actually turned upward in 1953 but, until the general level of prices stabilized in 1954, falling prices more than offset the rise in trade volume.

Widespread readjustments occurred in world economic activity after the boom year 1951 but did not affect all countries equally or simultaneously. First to be affected were the raw material producers, especially those of southeast Asia and Australasia whose principal exports suffered from falling prices and reduced demand. In the latter part of

*Prepared in the External Trade Section, International Trade Division, Dominion Bureau of Statistics.

1952 and the early months of 1953 many exporters of manufactured goods faced restricted markets, especially for textiles but also for some other classes of manufactures. Finally in the latter part of 1953 and the early months of 1954, a mild recession affected the North American economies. However by the latter half of 1954 trade and economic activity were expanding in most countries and this condition continued to prevail in 1955.

The value of Canada's trade in 1954 was exceeded only by that of the United States, the United Kingdom and the Federal Republic of Germany. German trade was slow in reviving after World War II but in 1949 it started to grow rapidly and in 1954 reached almost three times the value recorded for 1949, regaining its normal prewar rank of third world trading nation; it seems certain that this position was retained in 1955.

On a per capita basis, Canada's trade is much greater than that of most other leading trading countries; in 1953 it was greater than that of any other major world trader and in 1954 was exceeded only by the per capita trade of New Zealand. The trade of both Canada and New Zealand is based primarily on the exploitation of plentiful natural resources by a small labour force. For the Netherlands, Belgium, Sweden and the other countries shown in Table 1 with a high level of per capita trade, foreign trade is based on processing imported materials with plentiful capital and labour and on the very intensive use of more limited domestic resources.

1.—World Trade by Leading Countries 1953 and 1954

Sources: International Monetary Fund, *International Financial Statistics*, September 1955, and United Nations Statistical Office, *Population and Vital Statistics Reports*, Vol. VII, Nos. 2, 3.

Country	1953 Total Trade	1954			Popula- tion mid-1954	Trade per Capita	
		Exports f.o.b.	Imports c.i.f.	Total Trade		1953	1954
	U.S. \$ '000,000	U.S. \$ '000,000	U.S. \$ '000,000	U.S. \$ '000,000	'000	U.S. \$	U.S. \$
United States.....	27,616 ¹	15,099 ¹	11,103	26,202 ¹	164,183	171 ¹	160 ¹
United Kingdom.....	16,886	7,771	9,462	17,233	51,122	332	337
Germany, Federal Republic.....	8,161	5,249	4,571	9,820	51,707	159	190
Canada.....	9,420	4,434	4,549	8,983	15,195	637	591
France.....	7,724	4,189	4,215	8,404	44,051	176	191
Netherlands.....	4,535	2,412	2,857	5,269	10,609	432	497
Belgium and Luxembourg.....	4,656	2,300	2,535	4,835	9,124	513	530
Italy.....	3,927	1,636	2,401	4,037	47,665	82	85
Japan.....	3,685	1,629	2,399	4,028	88,000	43	46
Australia.....	3,443	1,659	1,869	3,528	8,987	391	393
Sweden.....	3,059	1,588	1,777	3,365	7,214	427	466
Brazil.....	2,858	1,562	1,634	3,196	57,226	51	56
World Total².....	151,239	77,332	79,335	156,667	1,755,000	88	89

¹ Including military aid extended to other countries.

² Excludes China, the Union of Soviet Socialist Republics, and the communist countries of eastern Europe (except Yugoslavia).

Canadian Trade 1953-55.—During the second half of 1953 Canadian foreign trade declined sharply and in 1954 it showed only a moderate degree of recovery. In the first quarter of 1955 however the growth of exports and imports again accelerated; in the third quarter both exports and imports exceeded their highest previous seasonally adjusted level, and trade remained at a high level in the fourth quarter. The value of imports in 1955 reached a total of \$4,700,000,000, higher than ever before, and exports at \$4,350,000,000 were almost a record. Both exports and imports were substantially greater in volume than in any previous year.

The decline of exports in 1953 and their continued low level in 1954 was caused almost entirely by developments affecting two types of commodity. Canada's grain exports had been raised to unprecedented heights in 1952 and 1953 because of poor crops in many other countries in the period 1950-52. In the following years, crops in many consuming countries were well above normal and adequate supplies were available in competing exporting countries as well as in Canada. As a result Canada's grain exports declined after the middle of 1953 and somewhat more sharply than did total world grain trade because competition had also returned to normal. Grain exports stabilized during 1954 at a level that was low by 1951-53 standards but close to normal by the standards of other years.

The other major focus of the 1953-54 decline in exports was automotive products. Until 1953 total world production of motor vehicles was well below world effective demand and in 1952, with the Canadian market somewhat restricted by credit controls, Canadian manufacturers sold automotive products to the value of \$111,000,000 in the export market. During 1953 demand for Canadian automobiles in many markets showed some decline and in addition there was a return to more normal market allocations among Canadian and United States plants of certain international manufacturers. By 1954 Canadian exports of automobiles, trucks and parts had fallen to \$27,000,000 but they recovered to \$39,800,000 in 1955.

When the sharp decline in exports of grains and motor vehicles finally ceased, the upward trend of Canadian exports which has characterized most of the postwar period again asserted itself. Most other major exports had either continued to expand in 1953-54 or had showed only moderate declines in 1953 in keeping with the mild recession which affected most overseas countries in that year. Exports of forest products and non-ferrous metals showed especially large advances in 1955 and some of the important postwar developments in Canada began to be reflected in export statistics. New production of iron ore from the Quebec-Labrador pits raised total exports of this commodity to a record \$100,000,000 in 1955, exports of crude petroleum from Canada reached a record \$36,000,000, and new productive capacity helped boost exports of primary and semi-fabricated aluminum to \$210,000,000.

The import recession in 1954 was general rather than concentrated and affected most of the leading commodities normally purchased abroad. Reduced economic activity in Canada was accompanied by a generally lower demand for industrial materials and many finished goods, and the effect of these declines on imports was sometimes accentuated by attempts to reduce inventories. This was especially true of textiles. Poor weather in the first half of the year hampered construction and this, together with the recession, influenced the substantial cut in spending for new industrial machinery and equipment. The drop in grain exports and prices reduced farmers' cash incomes and demand for agricultural implements fell. Personal expenditures on durable consumer goods also declined in 1954, but total personal incomes continued to rise and expenditure on non-durable goods and on services gained substantially, providing a sharp check to the recessive tendencies in the economy.

In 1955 imports increased very rapidly in keeping with the general upswing in the Canadian economy. Especially large increases were shown by automobile parts and fibres and textiles, imports of which had shown above-average declines in 1954. The recovery of investment and construction in Canada led to larger purchases of most capital goods and construction materials, and purchases of consumer goods, both durable and non-durable, continued to rise with consumers' incomes. Almost all of Canada's leading imports shared in the expansion of import trade with the notable exception of coffee, which was depressed by lower prices and market uncertainties, and of anthracite coal, which continued to be reduced by the growing use of oil for home heating. Imports of pipes, tubes and fittings also fell because of a pause in oil and gas pipeline construction.

One noteworthy feature of trade in recent years is the persistent tendency towards an import balance which has prevailed since 1950. Except for the year 1952 when grain exports were particularly high and when an extremely steep drop in import prices caused the value of imports to fall in the face of a rising volume of purchases, an import balance has resulted in each year of the 1951-55 period. The capital goods and consumer goods required to support the program of heavy investment spending and development activity of those years have in large measure had to be imported. On the other hand the new production for export and domestic use, which will be the end result of the investment and development program, has become available more gradually. Import balances have also characterized earlier periods of rapid economic development both in Canada and in other countries.

2.—Summary Statistics of Canadian Trade 1951-55

Item	1951	1952	1953	1954	1955	Decline Peak ¹ to 1954	Increase 1954 to 1955
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	p.c.	p.c.
Value of Trade—							
Domestic exports.....	3,914.5	4,301.1 ¹	4,117.4	3,881.3	4,281.8	— 9.8	+10.3
Re-exports.....	48.9	54.9	55.2	65.6	69.5	—	—
Imports.....	4,084.9	4,030.5	4,382.8 ¹	4,093.2	4,712.4	— 6.6	+15.1
Total Trade.....	8,048.2	8,386.5	8,555.4¹	8,040.1	9,063.7	— 6.0	+12.7
Trade balance.....	—121.5	+325.5	—210.2	—146.3	—361.1	—	—
Price Indexes (1948=100)—							
Domestic exports.....	123.0 ¹	121.8	118.3	115.1	117.5	— 6.4	+ 2.1
Imports.....	126.2 ¹	110.4	109.4	109.5	110.5	—13.2	+ 0.9
Volume Indexes (1948=100)—							
Domestic exports.....	103.5	114.9 ¹	113.2	109.6	118.5	— 4.6	+ 8.1
Imports.....	122.7	138.0	151.0 ¹	141.0	160.3	— 6.6	+13.7

¹ Pre-1954 peak.

Also noteworthy has been the strength of the Canadian dollar on world markets throughout the period of the import balances. Because a substantial proportion of the investment program in Canada (especially in the field of resource development) has been financed by imported capital, there has been a prevailing demand for Canadian dollars for this purpose which has contributed to the strength of the Canadian dollar since it was freed from exchange controls in October 1950. Since February 1952 the Canadian dollar has remained almost continuously at a premium over the United States dollar, although the amount of this premium was reduced in the later months of 1955.

3.—Price of the United States Dollar in Canada by Month 1949-55

NOTE.—Rates published by Bank of Canada. To Oct. 1, 1950, average (for business days in period) of mid-rate between official buying and selling rates; from Oct. 2, 1950, noon average market rate for business days in period.
(Canadian cents per U.S. dollar)

Month	1949	1950	1951	1952	1953	1954	1955
January.....	100.25	110.25	105.17	100.48	97.05	97.29	96.60
February.....	100.25	110.25	104.92	100.10	97.73	96.65	97.69
March.....	100.25	110.25	104.73	99.59	98.33	97.08	98.43
April.....	100.25	110.25	105.99	98.09	98.37	98.25	98.62
May.....	100.25	110.25	106.37	98.38	99.41	98.43	98.59
June.....	100.25	110.25	106.94	97.92	99.44	98.13	98.44
July.....	100.25	110.25	106.05	96.91	99.18	97.44	98.46
August.....	100.25	110.25	105.56	96.11	98.83	97.02	98.51
September.....	104.75	110.25	105.56	95.98	98.43	96.97	98.78
October.....	110.25	105.34	105.08	96.43	98.25	96.98	99.53
November.....	110.25	104.03	104.35	97.66	97.77	96.92	99.94
December.....	110.25	105.31	102.56	97.06	97.31	96.80	99.95
Annual Average.....	103.08	108.92	105.23	97.89	98.34	97.32	98.63

Changes in the Structure of Trade.—In almost every postwar year, Canada's foreign trade has reached or approached record levels and domestic economic activity has expanded with few interruptions. To find a similar pairing of high domestic prosperity and active foreign trade it is necessary to look back to the latter part of the 1920's. Since that time however the changes in the structure of Canada's trade have been pronounced. During the 1926-29 period more than half of Canada's exports were products of farm origin. Wheat accounted for 28 p.c. of total exports (half of the exports of farm produce), and wheat flour for an additional 5 p.c. No other main sector of industry originated as great an amount of exports as did the wheat farms of western Canada. The economy of the country at that time was directly dependent on international demand for wheat, as became evident in 1929 when demand for wheat began to fail.

In recent years exports of almost every important category of goods have reached higher total values than in any previous period, and in most of them the volume of shipments has also expanded. But the relative changes indicated in Table 4 are marked indeed. Although their absolute value has increased, exports of farm origin accounted for only 28 p.c. of the total in 1951-54, less than either the forest origin or the mineral origin categories. Exports of wheat were 45 p.c. greater in value than in the calendar years 1926-29 and exports of wheat flour were up by almost 69 p.c., but the share of these commodities in Canadian exports fell to 12 p.c. and 3 p.c., respectively. There was no significant difference in the quantity of wheat and flour exported from Canada in 1926-29 and 1951-54 though exports of other farm products taken together showed a small gain in volume.

The growth of Canada's forest and mineral industries to first and second places as sources of exports reflect the great diversification of the Canadian economy since the 1920's. The newsprint industry of North America is today much more highly concentrated in

Canada than it was then, partly because of Canada's wealth of raw materials and hydro-electric power, and partly because the tariffs of the United States and many other countries prevent the development of a large export market for fine papers while permitting the growth of newsprint exports. Wider uses of wood pulp in the textile and chemical industries as well as in the paper industry have led to a very sharp gain in exports of this commodity. Also the international postwar building boom has raised exports of lumber—the original base of Canada's forest industry—to unprecedented heights. However none of these leading forest products rival the position of dominance among Canadian exports that was held by wheat in the 1920's. During 1951-54 newsprint accounted for only 15 p.c. of exports and lumber and wood pulp for 7 p.c. each.

The expansion of exports of mineral origin reflects the discovery of more mineral deposits in Canada—western oil and Quebec-Labrador iron ore are the most spectacular postwar examples—together with a tendency to refine or further manufacture more of these metals before export. In this connection it should be noted that growth in the mixed origin group also reflects the increase of manufacturing activity in Canada. Today a very important part of Canada's mineral exports is actually produced from non-Canadian ores—aluminum, the leading export metal, is entirely produced from non-Canadian ores. Here again the diminished commodity concentration of Canadian exports is evident. Aluminum accounted for only 4 p.c. of exports in 1951-54, and lead, the fifth-ranking metal, for 1 p.c.

A smaller but still significant change is evident within the marine origin group of exports. The development of rapid transport and improved refrigeration has altered the nature of fish exports from chiefly salted, dried or canned in the 1920's, to chiefly fresh and frozen in the 1950's. Thus this important export industry has held its own in a period when the quality of food demanded in most countries was generally rising.

Changes in the industrial origin of imports are considerably less pronounced but still highly significant. As in the case of exports the importance of imports of farm origin has been sharply reduced. Although their absolute value more than doubled from 1926-29 to 1951-54 their share in total imports fell from two-fifths to little more than one-fifth. The sharpest relative gains have come in the manufactured goods categories of the mineral origin and mixed origin groups, reflecting the great importance of capital goods and consumer durables in Canadian expenditure in the postwar period, and also the rise of the chemical industries and the parallel substitution of synthetics for many natural materials.

Other important trends have affected imports of raw materials of mineral origin. The rise of the aluminum industry in Canada during the past twenty years has tended to increase the value of imports in this category. So for a time did the general expansion of industry in Canada and the growing use of automobiles and aircraft requiring increasing amounts of fuels. However new discoveries of oil and gas in Canada in the postwar period and the consequent switch from coal has braked the growth of this category of imports. Though still increasing in absolute value, imports of raw materials of mineral origin have declined from 14 p.c. of total imports in 1946-49 to less than 11 p.c. in 1951-54, a trend that may be expected to continue for some time.

Another development clearly illustrated in Table 4 is the more rapid growth of both exports and imports of partly and fully manufactured goods as compared with trade in raw materials. In the fiscal years 1926-29 raw materials accounted for about 47 p.c. of exports and 25 p.c. of imports, but by the calendar years 1951-54 these ratios had fallen to about 31 p.c. and 21 p.c. respectively. However despite the decline in the proportion of exports shipped in unprocessed form, the basis of Canada's trade still remains in the exchange of plentiful natural resources for the labour and capital embodied in foreign manufactures.

4.—Trade of Canada by Industrial Origin, Annual Averages for Selected Periods 1926-54

(Millions of dollars)

Origin Group	Domestic Exports				Imports			
	Years ended Mar. 31		Calendar Years		Years ended Mar. 31		Calendar Years	
	1926-29	1936-39	1946-49	1951-54	1926-29	1936-39	1946-49	1951-54
Farm Origin	712.7	340.3	942.5	1,143.6	439.7	234.5	699.4	922.7
Raw materials.....	501.2	203.9	551.9	850.6	152.9	95.0	279.2	403.7
Partly manufactured.....	10.6	8.4	16.4	19.5	63.0	41.5	104.0	126.5
Chiefly manufactured.....	201.0	128.1	374.2	273.5	223.8	98.0	316.2	392.4
Wildlife Origin	22.7	16.3	27.3	25.3	12.7	4.5	9.6	11.4
Raw materials.....	22.4	15.5	26.3	24.1	10.3	3.1	7.5	8.8
Partly manufactured.....	0.2	0.6	0.5	0.7	2.0	1.2	1.3	1.5
Chiefly manufactured.....	0.1	0.1	0.5	0.6	0.4	0.3	0.8	1.1
Marine Origin	36.9	27.2	90.6	121.5	3.5	2.9	10.2	10.7
Raw materials.....	11.3	11.6	43.8	70.5	1.1	0.9	3.2	3.3
Partly manufactured.....	—	—	0.3	0.6	—	1	—	—
Chiefly manufactured.....	25.6	15.7	46.6	50.3	2.4	2.0	7.1	7.3
Forest Origin	284.2	218.6	835.6	1,360.0	51.9	32.0	84.5	153.3
Raw materials.....	23.5	16.5	52.0	75.8	1.2	0.6	2.8	6.6
Partly manufactured.....	110.9	74.5	367.2	624.2	13.8	6.1	16.5	31.0
Chiefly manufactured.....	149.8	127.5	416.4	659.9	36.9	25.3	65.3	115.8
Mineral Origin	194.8	257.3	720.2	1,202.8	483.2	334.9	1,406.0	2,449.6
Raw materials.....	38.0	37.9	83.8	214.7	108.0	90.5	346.8	444.0
Partly manufactured.....	66.0	137.7	311.0	595.8	18.4	12.9	40.3	69.9
Chiefly manufactured.....	90.8	81.7	325.4	392.3	356.8	231.5	1,018.9	1,935.7
Mixed Origin	25.0	27.1	172.7	200.3	92.3	64.2	265.1	600.1
Raw materials.....	—	—	—	1.0	—	0.1	1	0.1
Partly manufactured.....	1.6	0.8	0.2	0.5	4.2	2.5	6.7	11.2
Chiefly manufactured.....	23.4	26.3	172.5	198.8	88.1	61.6	258.3	588.8
Totals	1,276.3	886.7	2,788.9	4,053.6	1,083.2	673.0	2,474.8	4,147.8
Raw materials.....	596.4	285.4	757.7	1,236.7	273.5	190.2	639.5	866.6
Partly manufactured.....	189.2	221.9	695.6	1,241.4	101.3	64.2	168.7	240.2
Chiefly manufactured.....	490.6	379.4	1,335.5	1,575.4	708.4	418.5	1,666.6	3,041.1

¹ Less than \$50,000.

PART II.—FOREIGN TRADE STATISTICS*

Section 1.—Explanations *re* Canadian Trade Statistics

Certain problems of procedure arise in recording trade statistics and require explanation. For the correct interpretation of the statistics of foreign trade, it is necessary that the following definitions and explanations of terms used be kept in mind:—

Quantities and Values.—In all tables of imports and exports the quantities and values are based upon the declarations of importers (import entries) and exporters (export entries), as subsequently checked by customs officials.

Imports: Valuation.—"Imports" means imports entered for consumption. "Entered for consumption" does not necessarily imply that the goods have been actually consumed in Canada but that they have passed into the possession of the importer and that duty has been paid on that portion liable for duty.

* Based on statistics taken from reports published by the External Trade Section, International Trade Division, Dominion Bureau of Statistics.

Under the main provisions of the law, the value of merchandise imported into Canada is the fair market value or price thereof when sold for home consumption in the principal markets of the country from which said merchandise was exported. (See Sects. 35 to 45 and 55 of the Customs Act.)

Canadian Exports: Valuation.—"Canadian produce" exported (domestic exports) includes Canadian products or manufactures, also exports of commodities of foreign origin that have been changed in form or enhanced in value by further manufacture in Canada, such as sugar refined in Canada from imported raw sugar, aluminum extracted from imported ore, and articles constructed or manufactured from imported materials. The value of exports of Canadian merchandise is the actual amount received in Canadian dollars exclusive of freight, insurance and other handling charges.

Foreign Exports: Valuation.—"Foreign produce" exported (re-exports) consists of foreign merchandise that has previously been imported (entered for home consumption). The value of such commodities is the actual amount received in Canadian dollars exclusive of freight, insurance and other handling charges.

Countries to which Trade is Credited.—Imports are classified as received from the countries whence they were consigned to Canada. These countries are not necessarily the countries of actual origin of the goods, since goods produced in one country may be imported by a firm in another country and later re-sold to Canada. In such cases the second country would be the country of consignment to which the goods would be credited.

There is one exception to this rule. An attempt is made to classify by country of actual origin imports produced in Central and South America but consigned to Canada from the United States. The effect of this procedure, which has been in force since 1946, is to reduce slightly imports credited to the United States and to increase those credited to Central and South American countries. (See Table 5.)

Exports are always credited to the country to which they are consigned.

Discrepancies in Trade Statistics between Canada and Other Countries.—Canadian statistics of exports are rarely in exact agreement with the import statistics of its customers and parallel differences occur with Canadian imports. Among the chief factors contributing to these discrepancies are:—

- (1) Differences in the system of valuation used by Canada and those of other countries, especially with respect to the treatment of transportation charges.
- (2) Differences in the statistical treatment of special categories of trade, such as armaments and military supplies, government-financed gift or mutual aid shipments, postal and express shipments, or warehouse trade.
- (3) Differing definitions of territorial areas.
- (4) Differing systems of geographical classification of trade, notably the consignment system used by Canada and the actual origin or ultimate destination system in use by some other countries.
- (5) Differences in the time at which trade is recorded in the statistics of partner countries caused by the time required for goods to move from one country to another.

Treatment of Gold in Trade Statistics.—The general use of gold as a money metal gives it peculiar attributes that distinguish it from other commodities in trade. In particular international movements of gold are determined largely by monetary factors rather than by ordinary trade or commercial considerations. Gold is generally acceptable; it does not have to surmount tariff barriers and is normally assured a market at a fixed minimum price. Also gold may be bought or sold internationally without any physical movements of the metal, such transactions being recognized by simply setting aside or 'ear-marking' the metal in the vaults of some central bank.

For these reasons movements of gold in a primary or semi-fabricated state are excluded from the statistics of Canada's commodity trade. However as gold is produced in Canada primarily as an export commodity, a series showing new gold production available for export is published as a supplement to the trade statistics. Because this series is calculated on a production basis, a division of the figures into transactions with individual countries is not possible.

NEW GOLD PRODUCTION AVAILABLE FOR EXPORT (NET EXPORTS OF
NON-MONETARY GOLD) BY MONTH 1948-55
(Millions of dollars)

Month	1948	1949	1950	1951	1952	1953	1954	1955
January.....	9.6	9.7	15.8	17.3	13.3	16.0	11.5	11.5
February.....	8.9	9.6	11.7	11.7	13.0	16.1	10.2	14.7
March.....	8.7	12.1	13.5	8.4	15.0	15.6	12.8	12.2
April.....	9.5	9.8	11.4	16.2	11.2	11.7	13.8	10.9
May.....	8.8	12.4	15.8	13.0	8.5	12.0	13.7	15.0
June.....	9.6	9.8	15.0	13.8	14.6	13.7	15.6	13.3
July.....	10.8	9.4	14.8	13.4	14.9	9.3	13.6	11.9
August.....	9.7	13.8	13.8	11.0	9.6	10.7	13.3	13.1
September.....	11.9	11.2	10.8	10.8	12.8	10.4	11.9	12.2
October.....	9.6	13.2	16.4	8.2	10.1	9.9	12.3	11.7
November.....	9.1	15.4	12.3	7.7	13.6	9.1	12.3	15.0
December.....	12.8	12.5	11.3	18.3	13.5	9.8	13.7	13.4
TOTALS.....	119.0	138.9	162.6	149.8	150.1	144.3	154.7	154.9

Section 2.—Total Foreign Trade

In considering the figures in Sections 2 to 6, reference should be made to the explanatory notes on trade in Section 1. It must be emphasized that gold imports and exports are excluded from all tables.



1.—Value of Total Foreign Trade of Canada (excluding Gold) 1941-55

NOTE.—These figures are available on a calendar year basis since 1919; figures for 1919-34 are given in the 1950 Year Book, p. 905, and for 1935-40 in the 1954 edition p. 969. Figures for the years ended Mar. 31, 1868-1911 are given in the 1940 Year Book, p. 526, and those for 1912-40 in the 1941 edition, p. 401.

Year	Imports			Exports			Balance of Trade: Excess of Exports (+) Imports (-)
	Dutiable	Free	Total	Domestic Produce	Foreign Produce	Total	
	\$	\$	\$	\$	\$	\$	\$
1941.....	732,791,033	716,000,617	1,448,791,650	1,621,003,175	19,451,366	1,640,454,541	+ 191,662,891
1942.....	715,018,745	929,223,188	1,644,241,933	2,363,773,296	21,692,750	2,385,466,046	+ 741,224,113
1943.....	836,548,673	898,528,217	1,735,076,890	2,971,475,277	29,877,002	3,001,352,279	+1,266,275,389
1944.....	884,761,584	874,146,613	1,758,898,197	3,439,953,165	43,145,447	3,483,098,612	+1,724,200,415
1945.....	798,795,201	786,979,941	1,585,775,142	3,218,330,353	40,093,935	3,267,424,288	+1,681,649,146
1946.....	1,078,943,972	848,335,430	1,927,279,402	2,312,215,301	26,950,546	2,339,165,847	+ 411,886,445
1947.....	1,562,690,081	1,011,254,044	2,573,944,125	2,774,902,355	36,888,055	2,811,790,410	+ 237,846,285
1948.....	1,382,202,722	1,254,742,630	2,636,945,352	3,075,438,085	34,590,583	3,110,028,668	+ 473,083,316
1949.....	1,444,123,667	1,317,083,574	2,761,207,241	2,992,960,978	29,491,856	3,022,452,834	+ 261,245,593
1950.....	1,617,948,425	1,556,304,713	3,174,253,138	3,118,336,551	38,686,122	3,157,022,673	- 17,180,465
1951.....	2,174,304,400	1,910,552,078	4,084,856,478	3,914,460,376	48,923,939	3,963,384,315	- 121,472,163
1952.....	2,162,882,381	1,867,585,272	4,030,467,653	4,301,080,679	54,878,985	4,355,959,664	+ 325,492,011
1953.....	2,417,960,243	1,964,870,187	4,382,830,430	4,117,405,882	55,195,233	4,172,601,115	- 210,229,315
1954.....	2,311,344,114	1,781,852,224	4,093,196,338	3,881,271,854	65,644,868	3,946,916,722	- 146,279,616
1955.....	2,637,454,631	2,074,915,404	4,712,370,035	4,281,784,253	69,499,483	4,351,283,736	- 361,086,299

Section 3.—Trade by Geographic Areas

The tables in this Section provide information about Canada's total foreign trade by continent and by country, with special reference in Tables 4 to 8 to the distribution of trade among the principal geographic areas.

2.—Trade of Canada by Continent 1952-55

Continent	1952		1953		1954		1955	
	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total
	\$'000		\$'000		\$'000		\$'000	
Imports								
Europe—								
United Kingdom.....	359,757	8.9	453,391	10.3	392,472	9.6	400,531	8.5
Other Europe.....	151,797	3.8	173,822	4.0	179,782	4.4	204,741	4.3
North America—								
United States.....	2,976,962	73.9	3,221,214	73.5	2,961,380	72.3	3,452,178	73.3
Other North America.....	114,813	2.8	92,943	2.1	111,400	2.7	140,316	3.0
South America.....	237,073	5.9	252,332	5.7	258,127	6.3	273,657	5.8
Asia.....	120,800	3.0	114,079	2.6	114,868	2.8	162,419	3.4
Oceania.....	43,114	1.0	42,226	1.0	43,079	1.1	46,933	1.0
Africa.....	26,152	0.7	32,823	0.8	32,088	0.8	31,595	0.7
Totals, Imports.....	4,030,468	100.0	4,382,830	100.0	4,093,196	100.0	4,712,370	100.0
Exports (Domestic)								
Europe—								
United Kingdom.....	745,845	17.3	665,232	16.2	653,408	16.8	769,313	18.0
Other Europe.....	500,345	11.6	387,285	9.4	353,452	9.1	393,105	9.2
North America—								
United States.....	2,306,955	53.6	2,418,915	58.7	2,317,153	59.7	2,559,343	59.8
Other North America.....	140,519	3.3	111,627	2.7	114,274	2.9	124,179	2.9
South America.....	186,984	4.3	139,393	3.4	126,709	3.3	94,320	2.2
Asia.....	254,140	5.9	258,204	6.3	185,770	4.8	178,018	4.1
Oceania.....	76,033	1.8	53,716	1.3	65,212	1.7	86,701	2.0
Africa.....	90,259	2.2	83,034	2.0	65,294	1.7	76,805	1.8
Totals, Exports (Domestic)...	4,301,080	100.0	4,117,406	100.0	3,881,272	100.0	4,281,784	100.0

3.—Trade of Canada with Commonwealth and Foreign Countries, Selected Years 1886-1955

Item and Year	Canadian Trade with—							
	United Kingdom		United States		Other Commonwealth Countries		Other Foreign Countries	
	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total
Imports	\$'000		\$'000		\$'000		\$'000	
Ended Mar. 31—								
1886.....	39,033	40.7	42,819	44.6	2,384	2.5	11,757	12.2
1891.....	42,019	37.7	52,033	46.7	2,318	2.1	15,163	13.5
1896.....	32,825	31.2	53,529	50.8	2,389	2.2	16,619	15.8
1901.....	42,820	24.1	107,378	60.3	3,833	2.2	23,900	13.4
1906.....	69,184	24.4	169,256	59.6	14,606	5.1	30,694	10.9
1911.....	109,935	24.3	275,824	60.8	19,533	4.4	47,433	10.5
1916.....	77,404	15.2	370,881	73.0	27,826	5.5	32,091	6.3
1921.....	213,974	17.3	856,177	69.0	52,029	4.2	117,979	9.5
Ended Dec. 31—								
1926.....	164,707	16.3	668,747	66.3	49,907	5.0	124,980	12.4
1929.....	194,778	15.0	893,585	68.8	62,287	4.8	148,343	11.4
1937.....	147,292	18.2	490,505	60.7	89,304	11.0	81,796	10.1
1939.....	114,007	15.2	496,898	66.1	74,893	10.0	65,257	8.7
1943.....	134,965	7.7	1,423,672	82.1	103,666	6.0	72,773	4.2
1947.....	189,370	7.4	1,974,679	76.7	165,024	6.5	244,871	9.5
1948.....	299,502	11.3	1,805,763	68.5	204,612	7.8	327,069	12.4
1949.....	307,450	11.1	1,951,860	70.7	186,779	6.8	315,118	11.4
1950.....	404,213	12.7	2,130,476	67.1	241,411	7.6	398,153	12.6
1951.....	420,985	10.3	2,812,927	68.9	306,104	7.5	544,840	13.3
1952.....	359,757	8.9	2,976,962	73.9	184,704	4.6	509,044	12.6
1953.....	453,391	10.3	3,221,214	73.5	170,571	3.9	537,654	12.3
1954.....	392,472	9.6	2,961,380	72.4	181,760	4.4	557,584	13.6
1955.....	400,531	8.5	3,452,178	73.3	209,115	4.4	649,889	13.8
Exports (Domestic)								
Ended Mar. 31—								
1886.....	36,694	47.2	34,284	44.1	3,263	4.2	3,515	4.5
1891.....	43,244	48.8	37,743	42.6	3,893	4.4	3,791	4.2
1896.....	62,718	57.2	37,789	34.4	4,048	3.7	5,152	4.7
1901.....	92,858	52.3	67,984	38.3	7,891	4.5	8,700	4.9
1906.....	127,456	54.2	83,546	35.5	10,965	4.6	13,516	5.7
1911.....	132,157	48.2	104,116	38.0	16,811	6.1	21,233	7.7
1916.....	451,852	60.9	201,106	27.1	30,677	4.2	57,974	7.8
1921.....	312,845	26.3	542,323	45.6	90,607	7.6	243,389	20.5
Ended Dec. 31—								
1926.....	459,223	36.4	457,878	36.3	95,701	7.6	248,439	19.7
1929.....	290,295	25.2	492,686	42.8	105,006	9.1	264,430	22.9
1937.....	402,062	40.3	360,012	36.1	104,159	10.4	131,134	13.2
1939.....	328,099	35.5	380,392	41.1	102,707	11.1	113,728	12.3
1943.....	1,032,647	34.8	1,149,232	38.7	369,015	12.4	420,581	14.1
1947.....	751,198	27.1	1,034,226	37.3	417,303	15.0	572,175	20.6
1948.....	686,914	22.3	1,500,987	48.8	345,477	11.3	542,060	17.6
1949.....	704,956	23.5	1,503,459	50.2	310,067	10.4	474,480	15.9
1950.....	469,910	15.1	2,020,988	64.8	185,179	5.9	442,310	14.2
1951.....	631,461	16.1	2,297,675	58.7	240,946	6.2	744,379	19.0
1952.....	745,845	17.3	2,306,955	53.7	261,687	6.1	986,593	22.9
1953.....	665,232	16.2	2,418,915	58.7	232,352	5.6	800,906	19.5
1954.....	653,408	16.9	2,317,153	59.7	195,053	5.0	715,658	18.4
1955.....	769,313	18.0	2,559,343	59.8	237,125	5.5	716,004	16.7

4.—Trade of Canada by Leading Countries 1953-55

Rank in—			Country	1953	1954	1955
1953	1954	1955				
Imports				\$'000	\$'000	\$'000
1	1	1	United States.....	3,221,214	2,961,380	3,452,178
2	2	2	United Kingdom.....	453,391	392,472	400,531
3	3	3	Venezuela.....	155,147	167,594	187,277
4	4	4	Germany, Federal Republic.....	35,507	44,485	55,603
19	15	5	Japan.....	13,629	19,197	36,718
7	6	6	India.....	26,627	28,054	35,147
5	5	7	Brazil.....	35,047	31,623	30,747
27	12	8	Netherlands Antilles.....	8,154	20,582	30,722
6	7	9	Belgium and Luxembourg.....	29,082	25,077	29,051
16	21	10	Mexico.....	15,785	14,033	28,814
12	14	11	Malaya and Singapore.....	21,896	19,586	28,810
8	9	12	Australia.....	23,464	24,657	26,295
11	11	13	France.....	22,267	22,046	25,016
9	8	14	Colombia.....	23,215	24,820	22,220
10	10	15	Netherlands.....	22,298	22,562	20,951
13	16	16	Switzerland.....	20,437	19,151	19,365
18	20	17	Italy.....	14,271	15,006	18,502
15	13	18	British Guiana.....	17,800	20,482	18,307
14	17	19	Lebanon.....	19,584	17,413	17,920
17	22	20	Ceylon.....	14,461	12,527	15,581
20	19	21	Jamaica.....	11,761	15,309	15,567
23 ¹	18	22	British East Africa.....	9,393 ¹	15,852	13,158
25	28	23	New Zealand.....	8,572	7,314	12,316
24	25	24	Sweden.....	9,341	9,175	12,152
21	23	25	Cuba.....	11,654	9,913	10,025
28	24	26	Trinidad and Tobago.....	8,062	9,595	9,840
38	30	27	Panama.....	3,637	5,850	9,037
49	33	28	Barbados.....	2,375	5,358	8,236
^a	46	29	Arabia.....	2,196	2,225	6,986
33	29	30	Union of South Africa.....	4,616	5,911	6,255
Totals, 30 Leading Countries.....				4,264,883	3,989,249	4,603,327
Grand Totals, Imports.....				4,382,830	4,093,196	4,712,370
Exports (Domestic)						
1	1	1	United States.....	2,418,915	2,317,153	2,559,343
2	2	2	United Kingdom.....	665,232	653,408	769,313
3	3	3	Japan.....	118,568	96,474	90,893
4	4	4	Germany, Federal Republic.....	83,858	86,899	90,751
8	6	5	Australia.....	39,629	45,768	58,482
6	9	6	Union of South Africa.....	50,763	39,883	56,026
5	5	7	Belgium and Luxembourg.....	69,510	54,987	53,384
7	10	8	Netherlands.....	42,382	39,777	47,689
10	8	9	Norway.....	37,278	43,813	47,031
14	11	10	France.....	32,281	33,799	42,563
17	13	11	Mexico.....	28,986	27,359	37,126
12	12	12	Venezuela.....	36,485	30,973	30,756
13	15	13	Italy.....	33,170	23,844	27,653
16	14	14	Switzerland.....	29,833	26,826	25,640
11	17	15	India.....	37,187	17,689	24,669
18	16	16	Colombia.....	20,146	21,000	22,691
32	20	17	New Zealand.....	7,475	14,807	22,344
23	19	18	Philippines.....	13,872	15,863	18,136
19	18	19	Cuba.....	16,124	17,465	13,910
25	21	20	Jamaica.....	12,490	11,552	12,907
24	25	21	Ireland.....	13,356	8,821	12,808
27	22	22	Trinidad and Tobago.....	9,490	11,425	12,625
9	7	23	Brazil.....	37,561	45,096	11,520
30	27	24	Puerto Rico.....	7,753	7,757	9,715
39	42	25	Sweden.....	4,587	3,518	7,622
21	45	26	Korea.....	14,991	3,197	7,514
29	26	27	Hong Kong.....	9,000	8,252	7,253
31	30	28	Argentina.....	7,641	6,692	6,833
15	24	29	Pakistan.....	32,103	8,970	6,202
37	^a	30	Austria.....	5,136	2,857	6,025
Totals, 30 Leading Countries.....				3,935,802	3,725,914	4,139,424
Grand Totals, Exports (Domestic).....				4,117,406	3,881,272	4,281,784

¹ Includes Nyasaland.² Lower than 50th.

5.—Value of Imports by Country 1949-55 with Averages 1935-39

Country	Averages 1935-39	1949	1950	1951	1952	1953	1954	1955
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
North America	421,356	1,954,008	2,131,470	2,814,436	2,979,344	3,224,247	2,968,996	3,456,175
Newfoundland.....	2,188	918 ¹	...	...	...	...	...	...
Alaska.....	93	1,218	976	1,483	2,333	2,961	7,573	3,932
Greenland.....	311	—	—	—	1	6	13	13
St. Pierre and Miquelon.....	26	12	18	25	48	66	30	52
United States.....	418,738	1,951,860	2,130,476	2,812,927	2,976,962	3,221,214	2,961,380	3,452,178
Central America and Antilles	14,570	99,717	125,582	113,818	112,431	89,909	103,786	135,662
Bahamas.....	818	532	346	406	427	418	272	272
Barbados.....	3,261	7,080	10,057	13,409	8,666	2,375	5,358	8,236
Bermuda.....	102	144	87	82	317	126	390	258
British Honduras.....	87	295	445	458	26	139	124	164
Jamaica.....	5,160	16,577	19,080	18,041	9,204	11,761	15,309	14,910
Leeward and Windward Islands.....	1,816	297	395	956	216	1,210	1,250	2,456
Trinidad and Tobago.....	2,387	14,575	15,205	15,082	9,660	8,062	9,595	9,840
American Virgin Islands.....	3	14	12	166	—	—	3	3
Costa Rica.....	77	2,119	3,378	8,785	8,740	9,472	7,746	5,948
Cuba.....	615	6,562	4,134	8,333	18,615	11,654	9,913	10,025
Dominican Republic.....	4	3,822	1,180	1,126	6,000	5,854	1,663	1,529
El Salvador.....	19	1,054	848	1,183	771	1,389	951	2,962
French West Indies.....	1	123	3	3	2	—	1	158
Guatemala.....	67	5,743	5,781	4,618	2,080	3,259	5,060	4,545
Haiti.....	63	1,026	1,769	3,020	1,928	748	1,570	1,597
Honduras.....	49	6,986	5,621	4,027	4,643	4,594	2,589	1,666
Mexico.....	667	25,494	32,974	18,013	23,937	15,785	14,033	28,814
Netherlands Antilles.....	150	3,713	17,336	10,809	11,747	8,154	20,582	30,722
Nicaragua.....	3	179	339	596	501	391	181	1,429
Panama.....	32	2,572	5,478	3,492	4,125	3,637	5,850	9,037
Puerto Rico.....	13	523	931	1,276	846	872	1,203	1,094
South America	22,936	159,145	174,010	216,666	237,073	252,332	258,126	273,656
British Guiana.....	5,846	22,355	21,735	25,025	23,660	17,800	20,482	18,307
Falkland Islands.....	3	—	—	—	—	—	1	—
Argentina.....	5,374	3,324	10,913	13,955	4,374	8,529	2,738	4,414
Bolivia.....	26	2,049	2,442	1,848	3,351	1,415	267	19
Brazil.....	920	21,163	28,178	40,627	35,103	35,047	31,623	30,747
Chile.....	125	598	1,353	2,153	3,282	1,052	236	250
Colombia.....	5,139	12,588	13,342	13,063	18,004	23,215	24,820	22,220
Ecuador.....	41	1,137	1,473	2,438	2,751	2,688	3,763	5,187
French Guiana.....	1	—	—	—	—	3	—	3
Paraguay.....	62	374	350	343	346	260	520	237
Peru.....	3,554	2,465	3,961	5,588	8,050	2,928	2,264	869
Surinam.....	3	326	228	1,141	528	1,345	2,793	3,646
Uruguay.....	180	1,069	2,770	3,768	1,863	2,903	1,025	483
Venezuela.....	1,662	91,697	87,264	136,718	135,758	155,147	167,594	187,277
Northwestern Europe	157,485	371,589	485,362	567,916	485,675	600,416	544,666	572,357
United Kingdom.....	124,047	307,450	404,213	420,985	359,757	453,391	392,472	400,531
Austria.....	245	382	964	3,191	2,917	2,967	3,043	2,709
Belgium and Luxembourg.....	6,330	19,022	22,795	39,095	33,216	29,082	25,077	29,051
Denmark.....	165	1,893	1,406	3,730	2,167	2,175	3,463	4,269
France.....	6,382	13,309	14,669	23,974	19,117	22,267	22,046	25,016
Germany, Federal Republic.....	10,364 ⁴	7,134 ⁴	11,026 ⁴	30,936 ⁴	22,629	35,507	44,485	55,003
Iceland.....	3	52	233	26	50	80	59	8
Ireland.....	69	71	148	785	462	582	1,150	336
Netherlands.....	3,984	6,688	8,896	14,010	16,495	22,298	22,562	20,951
Norway.....	742	1,212	1,405	2,977	3,857	2,289	1,983	2,366
Sweden.....	2,044	3,474	5,145	11,808	8,611	9,341	9,175	12,152
Switzerland.....	3,110	10,902	14,464	16,398	16,396	20,437	19,151	19,365
Southern Europe	3,863	13,537	15,240	23,943	18,326	21,322	22,862	27,205
Gibraltar.....	—	—	2	—	—	—	1	3
Malta.....	2	22	20	47	51	67	67	62
Azores and Madeira.....	157	554	387	410	285	179	193	200
Greece.....	47	135	203	174	197	224	231	280
Italy.....	2,403	9,048	9,373	14,217	11,735	14,271	15,006	18,502
Portugal.....	265	1,351	1,698	1,980	1,798	1,962	1,798	1,941
Spain.....	989	2,427	3,558	7,114	4,260	4,619	5,566	6,220

¹ January to March only.² Included with Leeward and Windward Islands.³ Less than \$500.⁴ Includes all Germany.

5.—Value of Imports by Country 1949-55 with Averages 1935-39—continued

Country	Averages 1935-39	1949	1950	1951	1952	1953	1954	1955
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Eastern Europe.....	2,943	6,781	6,903	7,070	7,553	5,475	4,727	5,709
Albania.....	1	—	—	—	—	—	—	—
Bulgaria.....	4	1	4	4	2	—	1	3
Czechoslovakia.....	1,979	6,401	6,036	4,668	3,559	2,589	1,796	2,880
Estonia.....	23	11	30	116	31	9	5	2
Finland.....	70	45	217	158	234	548	609	374
Germany, Eastern.....	2	2	2	2	492	956	721	582
Hungary.....	130	76	36	121	279	184	210	524
Latvia.....	11	4	3	33	36	7	5	5
Lithuania.....	4	2	—	12	16	3	2	—
Poland.....	185	183	357	1,430	556	244	405	595
Roumania.....	96	3	19	22	13	7	3	1
Union of Soviet Socialist Republics.....	341	11	80	358	2,234	824	687	628
Yugoslavia.....	99	45	122	149	101	101	284	516
Middle East.....	1,612	17,086	32,098	45,204	29,338	30,652	23,696	31,771
Aden.....	4	884	12	22	7	10	79	48
Anglo-Egyptian Sudan.....	25	25	53	58	76	60	57	97
Arabia.....	2	12,127	28,115	22,659	7,559	2,196	2,225	6,986
Egypt.....	728	155	659	711	462	4,203	440	294
Ethiopia.....	5	49	31	31	21	44	97	90
Iran.....	126	288	192	521	1,168	1,025	1,385	2,064
Iraq.....	357	1,418	1,201	2,132	924	1,371	238	1,299
Israel.....	68	504	490	929	1,161	1,312	1,040	1,166
Italian Africa.....	1	—	2	3	—	—	—	—
Jordan.....	—	—	—	—	—	—	—	2
Libya.....	—	—	—	—	—	—	1	3
Lebanon.....	—	—	—	—	—	—	—	—
Syria.....	6	429	62	16,381	15,171	19,584	17,413	17,920
Turkey.....	293	1,207	1,280	1,757	72	56	23	1,059
					2,719	791	699	743
Other Asia.....	34,355	72,924	113,537	150,954	92,019	87,735	91,766	131,133
Ceylon.....	4,015	11,635	17,604	16,396	12,492	14,461	12,527	15,581
India.....	8,315	26,233	37,262	40,217	26,822	26,627	28,054	35,147
Pakistan.....	—	1,193	1,706	2,233	191	558	566	816
Hong Kong.....	842	2,989	2,203	3,001	3,711	4,427	4,154	5,875
Malaya and Singapore.....	11,154	16,187	28,852	57,980	25,473	21,896	19,586	28,810
Other British East Indies.....	79	21	47	4,623	1,772	350	172	71
Afghanistan.....	1	3	109	51	19	42	9	6
Burma.....	381	32	—	4	4	2	79	7
China.....	—	—	—	—	—	—	—	—
Taiwan.....	3,344	3,347	5,299	1,929	1,286	1,119	1,621	3,125
French East Indies.....	126	—	—	1	—	1	187	155
Indonesia.....	800	1,454	728	1,052	893	598	611	1,001
Japan.....	4,649	5,551	12,087	12,577	13,162	13,629	19,197	36,718
Korea.....	1	1	35	1	8	54	170	480
Philippines.....	563	4,203	6,425	8,954	5,423	2,986	4,001	2,027
Portuguese Asia.....	1	—	—	—	—	14	1	—
Thailand.....	84	72	1,181	1,938	764	896	786	1,142
Other Africa.....	8,455	21,224	34,113	30,748	25,595	28,518	31,494	31,112
British East Africa.....	2,683	6,094	15,067	10,864	9,593	9,393	15,852	13,158
Federation of Rhodesia and Nyasaland.....	3164	857	452	1,505	1,474	3,864	1,161	482
Union of South Africa.....	—	3,862	4,964	5,372	4,165	4,616	5,911	6,255
Other British South Africa.....	4,210	—	—	—	—	8	3	1
Gold Coast.....	701	6,709	8,999	7,112	5,523	3,159	1,986	3,775
Nigeria.....	370	2,593	1,486	898	1,764	1,584	866	858
Sierra Leone.....	7	10	294	49	6	2	7	8
Other British West Africa.....	1	—	1	—	—	1	1	—
Belgian Congo.....	5	703	1,481	3,052	990	2,247	1,489	2,673
Canary Islands.....	10	11	6	16	22	30	26	25
French Africa.....	61	17	543	398	404	2,631	3,184	3,267
Liberia.....	14	7	—	183	29	372	135	214
Madagascar.....	31	9	8	29	1	8	304	14
Morocco.....	32	142	704	1,071	1,049	529	197	195
Portuguese East Africa.....	—	—	—	—	—	—	191	128
Portuguese West Africa.....	15	212	109	198	576	73	181	44
Spanish Africa.....	—	—	—	—	—	2	—	16

¹ Less than \$500.² Included with Germany, Federal Republic.³ Not listed separately.⁴ Southern

5.—Value of Imports by Country 1949-55 with Averages 1935-39—concluded

Country	Averages 1935-39	1949	1950	1951	1952	1953	1954	1955
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Oceania	17,015	45,199	55,938	84,102	43,114	42,225	43,079	46,932
Australia.....	9,728	27,429	32,803	46,228	18,712	23,464	24,657	26,295
Fiji.....	2,341	7,997	10,194	5,993	6,487	5,554	5,813	5,016
New Zealand.....	4,754	8,910	11,855	30,107	14,231	8,572	7,314	12,316
French Oceania.....	3	417	476	360	1	—	3	—
Hawaii.....	186	361	495	1,414	3,473	4,635	5,292	3,305
United States Oceania.....	1	85	115	—	210	—	—	—
Totals, Imports	684,582	2,761,207	3,174,253	4,084,856	4,030,468	4,382,836	4,093,196	4,711,713
Totals, Commonwealth Countries	194,442	494,158	645,624	727,089	544,462	623,962	574,231	609,646
Totals, United States and Dependencies	419,030	1,954,061	2,133,005	2,817,265	2,983,824	3,229,682	2,975,447	3,460,510

¹ Less than \$500.

6.—Value of Domestic Exports by Country 1949-55 with Averages 1935-39

Country	Averages 1935-39	1949	1950	1951	1952	1953	1954	1955
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
North America	329,805	1,514,931	2,023,142	2,301,330	2,309,787	2,421,558	2,319,950	2,562,032
Newfoundland.....	8,048	9,229 ¹	—	—	—	—	—	—
Alaska.....	154	1,008	959	2,264	1,249	1,130	1,272	1,221
Greenland.....	—	27	134	206	303	194	299	86
St. Pierre and Miquelon.....	309	1,208	1,061	1,186	1,279	1,319	1,226	1,382
United States.....	321,294	1,503,459	2,020,988	2,297,675	2,306,955	2,418,915	2,317,153	2,559,343
Central America and Antilles	17,699	98,560	96,544	119,680	137,688	108,984	111,475	121,490
Bahamas.....	2	2,268	1,937	2,136	2,353	2,298	2,271	2,133
Costa Rica.....	1,218	5,013	2,974	4,584	3,912	3,734	4,378	4,267
Bermuda.....	1,381	3,616	2,991	3,693	3,158	3,070	2,992	3,010
British Honduras.....	255	600	491	572	381	376	299	304
Jamaica.....	3,887	9,033	7,495	10,213	10,591	12,490	11,552	12,907
Leeward and Windward Islands.....	1,600	4,515	3,213	4,229	4,276	3,864	3,931	4,149
Trinidad and Tobago.....	3,372	12,325	7,476	9,950	11,034	9,490	11,425	12,625
American Virgin Islands.....	42	126	156	181	167	178	119	190
Costa Rica.....	103	1,859	2,312	2,175	2,612	2,199	2,834	3,576
Cuba.....	1,418	14,391	18,005	20,424	24,181	16,124	17,455	13,910
Dominican Republic.....	171	2,194	2,954	4,060	4,643	3,993	4,269	4,168
El Salvador.....	69	927	1,467	2,002	2,230	1,901	1,526	1,808
French West Indies.....	157	70	39	40	47	26	24	23
Guatemala.....	117	1,697	2,401	2,365	1,896	2,234	2,021	2,508
Haiti.....	131	1,602	2,513	2,588	3,417	2,670	3,307	2,446
Honduras.....	159	678	613	3,575	1,736	556	471	588
Mexico.....	2,630	15,411	17,624	29,880	39,641	28,986	27,359	37,126
Netherlands Antilles.....	176	2,003	4,464	1,834	1,541	1,308	1,775	1,444
Nicaragua.....	72	638	756	1,097	1,185	1,354	1,653	1,769
Panama.....	316	13,632	9,019	5,961	11,359	4,380	4,057	2,824
Puerto Rico.....	425	5,962	7,643	8,120	7,328	7,753	7,757	9,715
South America	15,016	79,367	90,684	140,145	186,984	139,394	126,708	94,320
British Guiana.....	1,344	5,676	4,052	5,308	6,356	4,777	4,080	2,967
Falkland Islands.....	1	7	1	2	31	41	4	274
Argentina.....	4,696	2,902	13,360	8,883	8,227	7,641	6,692	6,833
Bolivia.....	113	1,908	2,267	3,484	6,398	5,501	1,272	1,086
Brazil.....	4,012	17,259	15,806	53,684	81,367	37,561	45,096	11,520
Chile.....	848	3,633	6,864	13,751	10,090	3,945	3,130	3,820
Colombia.....	1,296	8,012	14,806	12,311	13,756	20,146	21,000	22,691
Ecuador.....	93	1,727	1,432	2,713	2,030	4,220	5,509	4,953
French Guiana.....	36	129	5	4	12	6	4	2
Paraguay.....	8	133	110	167	112	339	167	91
Peru.....	1,072	7,050	3,744	5,054	16,405	15,108	5,086	6,001
Surinam.....	49	960	863	934	1,097	712	911	971
Uruguay.....	310	2,282	1,918	6,868	5,429	2,912	2,784	2,355
Venezuela.....	1,139	27,689	25,457	26,982	35,683	36,485	30,973	30,756

¹ January to March only.² Included with Leeward and Windward Islands.³ Less than \$500.

6.—Value of Domestic Exports by Country 1949-55 with Averages 1935-39—continued

Country	Averages 1935-39	1949	1950	1951	1952	1953	1954	1955
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Northwestern Europe	412,354	910,839	639,223	934,716	1,151,964	991,814	958,303	1,106,503
United Kingdom	353,741	704,956	469,910	631,461	745,845	665,232	653,408	789,313
Austria	27	3,706	2,369	2,166	5,216	5,136	2,857	6,025
Belgium and Luxembourg	13,204	56,525	66,351	94,457	104,376	69,510	54,987	53,384
Denmark	1,438	3,109	923	5,587	9,881	6,303	2,929	3,172
France	8,566	36,004	18,403	46,538	48,264	32,281	33,799	42,563
Germany, Federal Republic	9,639 ¹	23,451 ¹	8,873 ¹	37,028 ¹	94,863	83,858	86,899	90,551
Iceland	28	743	847	700	833	2,058	669	505
Ireland	3,861	9,052	13,321	20,921	23,058	13,356	8,821	12,808
Netherlands	10,062	13,759	8,617	26,191	41,508	42,382	39,777	47,689
Norway	7,247	21,736	18,924	32,198	39,002	37,278	43,813	47,031
Sweden	3,593	5,516	4,250	12,125	12,198	4,587	3,518	7,622
Switzerland	948	32,281	26,435	25,345	26,918	29,833	26,826	25,640
Southern Europe	4,986	28,316	33,811	59,930	68,352	56,924	35,137	43,246
Gibraltar	9	336	329	648	353	486	252	286
Malta	377	3,905	4,680	2,150	3,111	3,307	3,043	3,934
Greece	1,142	2,615	1,833	2,703	4,415	1,560	2,505	4,298
Italy	2,785	12,567	15,476	48,763	52,645	33,170	23,444	27,653
Portugal	170	8,405	5,641	4,665	4,026	3,991	2,118	2,554
Azores and Madeira	8	101	210	259	224	231	641	311
Spain	495	387	5,642	742	3,579	14,179	2,734	4,210
Eastern Europe	3,091	7,102	5,635	6,510	25,873	3,779	13,419	12,671
Albania	3	—	—	1	—	—	—	—
Bulgaria	10	279	215	8	2	3	8	2
Czechoslovakia	881	3,030	2,179	492	367	123	295	1,062
Estonia	5	—	—	—	—	—	—	—
Finland	539	607	600	3,129	2,694	1,388	476	1,736
Eastern Germany	—	—	—	—	—	—	—	—
Hungary	4	75	86	30	81	48	35	165
Latvia	242	—	—	—	—	—	—	—
Lithuania	196	—	1	—	—	—	—	—
Poland	805	1,945	1,432	94	69	183	558	4,005
Roumania	52	338	122	11	45	94	74	397
Union of Soviet Socialist Republics	336	93	182	7	—	—	4,854	2,680
Yugoslavia	18	734	818	2,739	22,613	1,940	7,119	363
Middle East	1,511	50,921	23,749	31,117	50,326	33,219	24,500	12,108
Aden	109	57	31	25	127	34	22	16
Anglo-Egyptian Sudan	109	37	75	34	104	17	8	4
Arabia	4	3,142	875	1,414	2,149	2,644	1,594	1,244
Egypt	399	4,762	3,716	2,466	19,363	11,688	1,201	1,291
Ethiopia	2	42	54	198	54	55	118	73
Iran	118	11,987	993	1,000	585	753	757	644
Iraq	55	472	70	1,062	313	458	425	1,170
Israel	251	12,709	12,126	11,816	11,940	9,059	10,174	4,558
Italian Africa	2	92	184	3	6	—	1	—
Jordan	4	211	46	1,071	105	38	123	49
Libya	2	11	374	2,029	854	1,279	810	74
Lebanon	80	3,278	1,462	7,036	9,355	5,161	982	1,293
Syria	—	—	—	—	580	578	1,169	1,045
Turkey	388	14,121	3,744	2,962	4,791	1,455	7,086	647
Other Asia	36,001	148,022	95,757	163,986	224,196	238,025	163,437	167,351
Ceylon	246	2,159	4,353	3,470	5,825	3,307	3,147	2,671
India	—	72,551	31,520	35,737	55,423	37,187	17,689	24,669
Pakistan	3,732	18,097	8,681	4,486	16,016	32,103	8,970	6,202

¹ Includes all Germany.⁴ Not listed separately.² Less than \$500.³ Included with Germany, Federal Republic.

6.—Value of Domestic Exports by Country 1949-55 with Averages 1935-39—concluded

Country	Averages 1935-39	1949	1950	1951	1952	1953	1954	1955
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Other Asia—concl.								
Hong Kong.....	1,651	10,099	8,004	12,033	9,582	9,000	8,252	7,253
Malaya and Singapore.....	2,173	5,437	4,097	10,796	7,067	2,854	2,983	3,421
Other British East Indies.....	5	2	32	1	13	27	18	53
Afghanistan.....	1	14	52	97	272	150	55	20
Burma.....	71	54	30	279	1,023	444	212	480
China.....	3,808	13,801	2,057	367	1,156	—	70	1,016
Taiwan.....	85	177	69	223	327	1,482	3,186	1,227
French East Indies.....	801	4,640	3,052	5,227	6,250	351	190	337
Indonesia.....	21,880	5,860	20,533	72,976	102,603	1,990	1,321	944
Japan.....	3	233	1,143	213	335	118,568	96,474	90,893
Korea.....	1,523	13,983	10,829	15,598	16,045	14,991	3,197	7,514
Philippines.....	1	162	103	107	282	13,872	15,863	18,136
Portuguese Asia.....	22	752	1,200	2,378	1,976	190	43	174
Thailand.....						1,509	1,767	2,341
Other Africa.....	20,648	95,607	55,393	78,090	69,878	69,996	63,125	75,363
British East Africa.....	789	1,730	849	1,444	1,031	348	375	602
Federation of Rhodesia and Nyasaland.....	970 ²	3,218	1,597	2,950	2,662	2,220	3,945	4,323
Union of South Africa.....	15,457	77,713	42,561	52,736	47,852	50,763	39,883	56,026
Other British South Africa.....	35	15	5	27	12	15	7	5
Gambia.....	270	8	12	9	9	29	38	77
Gold Coast.....	145	1,489	581	980	254	1,749	2,313	1,461
Nigeria.....	203	1,068	247	796	865	942	1,452	890
Sierra Leone.....	1	303	219	20	159	235	356	598
Other British West Africa.....	1	1	1	1	—	1	33	33
Belgian Congo.....	89	2,459	2,471	4,318	5,900	3,349	3,628	3,534
Canary Islands.....	17	49	237	107	825	23	1	—
French Africa.....	248	2,243	1,927	6,748	3,226	1,248	1,204	1,176
Liberia.....	17	119	109	1,373	203	3,145	4,071	2,450
Madagascar.....	13	227	117	102	97	64	41	71
Morocco.....	711	1,268	1,700	3,381	4,630	3,809	2,824	1,791
Portuguese East Africa.....	1,675	3,604	2,702	2,827	2,088	1,997	2,614	2,044
Portuguese West Africa.....							323	274
Spanish Africa.....	9	95	62	75	64	59	17	2
Oceania.....	43,424	59,299	54,449	78,955	76,033	53,717	65,212	86,701
Australia.....	28,924	35,363	35,446	49,079	49,697	39,629	45,768	58,482
Fiji.....	387	598	234	802	519	424	654	1,055
New Zealand.....	12,799	14,489	10,983	21,757	18,844	7,475	14,807	22,344
Other British Oceania.....	25	61	15	82	71	64	103	84
French Oceania.....	80	295	737	626	424	487	389	477
Hawaii.....	1,207	8,311	6,830	6,418	6,280	5,385	3,222	3,924
United States Oceania.....	2	182	205	191	198	253	269	335
Totals, Exports.....	884,536	2,992,961	3,118,387	3,914,460	4,301,081	4,117,406	3,881,272	4,281,784
Totals, Commonwealth Countries.....	413,261	1,005,972	655,089	872,407	1,007,533	897,585	848,461	1,006,437
Totals, United States and Dependencies.....	323,124	1,519,048	2,036,780	2,314,848	2,322,177	2,433,614	2,329,792	2,574,728

¹ Less than \$500.² Southern Rhodesia only.

The proportion of imports subject to duty varies widely between countries and geographic areas. Generally the Canadian tariff imposes duties on a greater proportion of manufactured goods than of natural products. Countries supplying chiefly manufactures to Canada tend to have duties charged on a greater proportion of their goods and also to have relatively higher average *ad valorem* rates of duty charged on their goods than is the case with countries supplying chiefly natural products. Variations in the proportion of imports dutiable as between different countries, or in the average *ad valorem* rates of duty charged on imports from different countries therefore do not necessarily indicate differences in the tariff relations between Canada and these countries.

7.—Values of Dutiable and Free Imports by Leading Countries 1952-54

Country	1952			1953			1954		
	Dutiable	Free	Total	Dutiable	Free	Total	Dutiable	Free	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
North America¹	1,697,078	1,282,264	2,979,343	1,906,669	1,317,578	3,224,247	1,802,261	1,166,735	2,968,996
United States.....	1,694,823	1,282,139	2,976,962	1,904,030	1,317,184	3,221,214	1,799,403	1,161,977	2,961,380
Alaska.....	2,234	98	2,333	2,615	346	2,961	2,848	4,725	7,573
Central America and Antilles¹	81,717	30,713	112,429	67,708	22,202	89,910	77,612	26,174	103,786
Barbados.....	6,976	1,690	8,666	589	1,786	2,375	3,493	1,865	5,358
Jamaica.....	8,453	751	9,204	11,069	693	11,761	10,886	4,423	15,309
Trinidad and Tobago..	3,972	5,687	9,659	405	7,657	8,062	1,240	8,355	9,595
Costa Rica.....	8,736	4	8,740	9,456	17	9,473	7,731	15	7,746
Cuba.....	16,785	1,831	18,615	10,326	1,328	11,654	8,563	1,350	9,913
Guatemala.....	1,913	167	2,080	3,223	36	3,259	4,570	490	5,060
Mexico.....	6,027	17,911	23,937	7,327	8,458	15,785	7,280	6,753	14,033
Netherlands Antilles...	11,530	217	11,747	7,802	352	8,154	20,273	309	20,582
Panama.....	4,123	2	4,125	3,581	55	3,637	5,787	63	5,850
South America¹	70,522	166,550	237,071	68,983	183,349	252,332	69,221	188,905	258,126
British Guiana.....	13,891	9,769	23,660	6,809	10,990	17,799	9,485	10,997	20,482
Brazil.....	23,804	11,299	35,103	24,424	10,622	35,046	21,329	10,294	31,623
Colombia.....	17,145	860	18,005	21,289	1,926	23,215	22,286	2,534	24,820
Ecuador.....	2,697	54	2,751	2,194	494	2,688	3,757	6	3,763
Venezuela.....	8,631	127,127	135,758	10,199	144,947	155,146	9,202	158,392	167,594
Northwestern Europe¹	248,910	236,762	485,674	297,616	302,801	600,417	282,155	262,511	544,666
United Kingdom.....	156,819	202,938	359,757	193,695	259,696	453,391	171,424	221,048	392,472
Belgium and Luxembourg.....	26,697	6,519	33,216	20,248	8,834	29,082	16,807	8,270	25,077
Denmark.....	1,413	754	2,167	1,782	393	2,175	2,164	1,299	3,463
France.....	14,864	4,252	19,117	15,526	6,741	22,267	16,021	6,025	22,046
Germany, Federal Republic.....	16,196	6,433	22,629	25,643	9,864	35,507	33,404	11,081	44,485
Netherlands.....	8,075	5,419	13,495	11,137	11,161	22,298	13,264	9,298	22,562
Sweden.....	6,981	1,630	8,611	7,746	1,595	9,341	7,437	1,738	9,175
Switzerland.....	13,733	2,663	16,396	17,320	3,116	20,436	16,351	2,800	19,151
Southern Europe¹	12,143	6,183	18,325	13,952	7,369	21,321	14,816	8,046	22,862
Italy.....	8,555	3,181	11,735	10,734	3,537	14,271	11,353	3,653	15,006
Spain.....	1,886	2,374	4,260	1,833	2,786	4,619	2,095	3,471	5,566

¹ Includes other countries not specified.

7.—Values of Dutiable and Free Imports by Leading Countries 1952-54—concluded

Country	1952			1953			1954		
	Dutiable	Free	Total	Dutiable	Free	Total	Dutiable	Free	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Eastern Europe.....	4,564	2,989	7,553	3,929	1,547	5,476	3,428	1,299	4,727
Middle East¹.....	1,605	27,733	29,339	1,385	29,266	30,651	1,387	22,309	23,696
Lebanon.....	1	15,170	15,171	1	19,583	19,584	6	17,407	17,413
Other Asia¹.....	18,964	73,054	92,018	21,975	65,759	87,734	24,241	67,525	91,766
Ceylon.....	723	11,769	12,492	965	13,496	14,461	887	11,640	12,527
Hong Kong.....	2,511	1,200	3,711	3,140	1,287	4,427	3,119	1,035	4,154
India.....	3,026	23,795	26,822	4,677	21,950	26,627	4,232	23,822	28,054
Malaya and Singapore.....	239	25,234	25,473	162	21,734	21,896	77	19,509	19,586
Japan.....	11,418	1,744	13,162	12,205	1,425	13,630	14,855	4,342	19,197
Philippines.....	225	5,198	5,423	62	2,924	2,986	30	3,971	4,001
Other Africa¹.....	8,340	17,253	25,594	15,643	12,874	28,517	14,231	17,263	31,494
British East Africa.....	2,128	7,465	9,593	5,524	3,869	9,393	7,737	8,115	15,852
Union of South Africa.....	627	3,538	4,165	826	3,790	4,616	1,236	4,675	5,911
French Africa.....	66	338	404	134	2,497	2,631	313	2,871	3,184
Oceania¹.....	19,036	24,078	43,114	20,101	22,125	42,226	21,993	21,086	43,079
Australia.....	4,708	14,004	18,712	9,889	13,575	23,464	9,862	14,795	24,657
Fiji.....	6,487	—	6,487	5,552	2	5,554	5,813	—	5,813
New Zealand.....	4,395	9,836	14,231	483	8,089	8,572	1,437	5,877	7,314
Hawaii.....	3,445	28	3,473	4,176	459	4,635	4,881	411	5,292
Totals, Imports.....	2,162,882	1,867,585	4,030,468	2,417,960	1,964,876	4,382,836	2,311,344	1,781,852	4,093,196
Totals, Common-wealth Countries.....	219,547	324,915	544,462	251,738	372,224	623,962	235,504	338,727	574,231
Totals, Other Countries.....	1,943,335	1,542,671	3,486,006	2,166,222	1,592,646	3,758,868	2,075,840	1,443,126	3,518,965

¹ Includes other countries not specified.

8.—Average Ad Valorem Rates of Duty Collected and Percentage Proportions of Imports from the United Kingdom and from the United States to Totals of Dutiable and Free Imports 1945-54.

NOTE.—Figures for the years ended Mar. 31, 1868-1938 are given in the 1940 Year Book, p. 532. Calendar year figures for 1939-44 are given in the 1954 edition, p. 982.

Year	United Kingdom					United States				
	Average Ad Valorem Rates of Duty on—		Dutiable to Total Dutiable	Free to Total Free	Per-centage of All Imports	Average Ad Valorem Rates of Duty on—		Dutiable to Total Dutiable	Free to Total Free	Per-centage of All Imports
	Dutiable Imports	Total Imports				Dutiable Imports	Total Imports			
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1945.....	17.6	4.7	4.7	13.1	8.9	19.3	11.1	86.6	64.8	75.8
1946.....	17.5	4.5	4.8	17.7	10.5	19.4	12.7	85.4	57.0	72.9
1947.....	15.9	6.4	4.9	11.3	7.4	19.5	13.1	84.9	64.0	76.7
1948.....	17.1	7.7	9.8	13.1	11.4	15.7	9.1	76.2	60.0	68.5
1949.....	16.2	6.9	9.1	13.4	11.1	16.0	9.0	75.6	65.3	70.7
1950.....	16.6	6.2	9.3	16.3	12.7	16.3	9.0	72.6	61.4	67.1
1951.....	15.8	6.5	8.0	12.9	10.3	16.5	9.5	74.7	62.2	68.9
1952.....	16.5	7.2	7.3	10.9	8.9	16.8	9.6	78.4	68.7	73.9
1953.....	16.1	6.9	8.0	13.2	10.3	17.4	10.3	78.7	67.0	73.5
1954.....	16.4	7.1	7.4	12.4	9.6	17.3	10.5	77.9	65.2	72.3

9.—Values and Percentages of Trade with Selected Overseas Countries via the United States
1953 and 1954

Country	Imports via the United States				Domestic Exports via the United States			
	1953 ¹		1954		1953 ¹		1954	
	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
North America	—	—	—	—	222	1	108	1
Central America and Antilles ² ...	11,706	13.0	23,831	23.0	29,044	26.6	26,449	23.7
British West Indies.....	195	0.8	1,390	4.4	1,191	3.7	1,190	3.5
Costa Rica.....	1,903	20.1	6,102	78.8	895	40.7	749	26.4
Cuba.....	1,530	13.1	1,466	14.8	3,319	20.6	3,468	19.9
Dominican Republic.....	11	0.2	420	25.3	1,210	30.3	1,075	25.2
Guatemala.....	478	14.7	2,611	51.6	1,054	47.2	816	40.4
Haiti.....	31	4.1	432	27.5	1,060	39.7	1,175	35.5
Honduras.....	944	20.5	1,018	39.3	524	94.2	427	90.7
Mexico.....	5,419	34.3	5,608	40.0	15,901	54.9	13,540	49.5
Netherlands Antilles.....	—	—	—	—	713	54.5	1,042	58.7
Panama.....	817	22.5	4,227	72.3	901	20.6	814	20.1
South America ²	90,918	36.0	148,401	57.5	40,681	29.2	31,470	24.8
British Guiana.....	561	3.2	786	3.8	65	1.4	38	0.9
Argentina.....	843	9.9	538	19.6	3,826	50.1	1,166	17.4
Brazil.....	4,017	11.5	3,557	11.2	8,722	23.2	8,089	17.9
Chile.....	105	10.0	29	12.3	2,820	71.5	2,427	77.5
Colombia.....	4,474	19.3	7,919	31.9	5,223	25.9	6,526	31.1
Ecuador.....	95	3.5	677	18.0	1,086	25.7	875	15.9
Peru.....	302	10.3	565	25.0	4,017	26.6	1,995	39.2
Surinam.....	272	20.2	1,031	36.9	376	52.8	249	27.3
Venezuela.....	79,888	51.5	133,064	79.4	13,454	36.9	8,947	28.9
Northwestern Europe ²	1,088	0.2	1,561	0.3	31,760	3.2	19,983	2.1
United Kingdom.....	198	1	214	0.1	7,856	1.2	7,538	1.2
Austria.....	84	2.8	98	3.2	2,536	49.4	94	3.3
Belgium and Luxembourg.....	116	0.4	240	1.0	10,929	15.7	1,248	2.3
France.....	77	0.3	171	0.8	4,055	12.6	4,182	12.4
Germany, Federal Republic.....	165	0.5	183	0.4	1,949	2.3	1,973	2.3
Netherlands.....	6	1	63	0.3	1,205	2.8	1,090	2.7
Switzerland.....	416	2.0	461	2.4	673	2.3	1,316	4.9
Southern Europe ²	557	2.6	711	3.1	6,570	11.5	5,436	15.5
Greece.....	7	3.1	85	36.8	388	24.9	689	27.5
Italy.....	241	1.7	266	1.8	4,970	15.0	3,733	15.7
Eastern Europe	85	1.6	138	2.9	1,034	27.4	737	5.5
Middle East ²	13,504	44.1	17,857	75.4	6,973	21.0	10,428	42.6
Arabia.....	3	0.1	1,233	55.4	1,148	43.4	527	33.1
Lebanon.....	12,853	65.6	16,021	92.0	1,156	22.4	332	33.8
Turkey.....	164	20.7	117	16.7	1,366	93.9	6,336	89.4
Other Asia ²	2,933	3.3	3,631	4.0	14,445	6.1	11,614	7.1
India.....	204	0.8	152	0.5	1,142	3.1	1,175	6.6
Malaya and Singapore.....	1,001	4.6	330	1.7	832	29.2	855	28.7
Hong Kong.....	52	1.2	94	2.3	1,782	19.8	1,085	13.1
Indonesia.....	11	1.8	82	13.4	1,478	74.3	528	40.0
Japan.....	1,421	10.4	2,633	13.7	4,701	4.0	3,582	3.7
Thailand.....	32	3.6	172	21.9	774	51.3	1,003	56.8

¹ Less than 0.1 p.c.² Includes other countries not specified.

9.—Values and Percentages of Trade with Selected Overseas Countries via the United States 1953 and 1954—concluded

Country	Imports via the United States				Domestic Exports via the United States			
	1953 ¹		1954		1953 ¹		1954	
	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
Other Africa²	1,773	6.2	1,871	5.9	25,078	35.8	17,322	27.4
Union of South Africa.....	22	0.5	78	1.3	15,098	29.7	8,951	22.4
Other British South Africa.....	—	—	—	—	2	—	—	—
British West Africa.....	522	11.0	382	13.4	2,559	88.6	3,339	79.7
Belgian Congo.....	649	28.9	502	33.7	2,805	83.8	2,470	68.1
French Africa.....	51	1.9	213	6.7	1,006	80.6	818	67.9
Morocco.....	17	3.2	38	19.3	2,583	67.8	597	21.1
Oceania²	660	1.6	1,052	2.4	13,179	24.5	12,710	19.5
Australia.....	53	0.2	64	0.3	12,275	31.0	10,225	22.3
New Zealand.....	3	1	40	0.5	652	8.7	2,160	14.6
Totals, Trade	123,224	10.6	199,053	17.6	168,986	9.9	136,257	8.7

¹ Less than 0.1 p.c.² Includes other countries not specified.

10.—Imports Credited to Countries of Central and South America by Country of Consignment 1953 and 1954

Country	1953				1954			
	Consigned from Country Credited		Con-sig-ned from United States to Canada	Total Imports as Credited	Consigned from Country Credited		Con-sig-ned from United States to Canada	Total Imports as Credited
	Direct to a Canadian Port	Via a United States Port			Direct to a Canadian Port	Via a United States Port		
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Central America and Antilles	58,609	11,706	19,594	89,910	67,319	23,830	12,635	103,784
Bermuda.....	126	1	—	126	390	1	—	390
British Honduras.....	51	41	47	139	9	101	14	124
Bahamas.....	271	154	2	427	178	235	4	418
Barbados.....	2,350	5	20	2,375	5,345	—	13	5,358
Jamaica.....	11,742	6	13	11,761	15,309	—	1	15,309
Leeward and Windward Islands..	1,197	—	13	1,210	1,235	—	16	1,250
Trinidad and Tobago.....	8,030	30	1	8,062	8,429	1,155	11	9,595
American Virgin Islands.....	—	—	—	—	1	—	1	—
Costa Rica.....	1,579	1,903	5,990	9,472	274	6,102	1,370	7,746
Cuba.....	8,671	1,530	1,453	11,654	7,148	1,466	1,299	9,913
Dominican Republic.....	5,262	11	581	5,854	350	420	892	1,663
El Salvador.....	1,168	170	51	1,389	630	175	146	951
French West Indies.....	—	—	—	—	1	—	—	1
Guatemala.....	771	478	2,010	3,259	835	2,611	1,614	5,060
Haiti.....	326	30	392	748	242	432	896	1,570
Honduras.....	481	944	3,169	4,594	67	1,018	1,505	2,589
Mexico.....	7,113	5,419	3,253	15,785	5,612	5,608	2,812	14,033
Netherlands Antilles.....	8,154	—	—	8,154	20,487	—	95	20,582
Nicaragua.....	327	40	24	391	159	12	10	181
Panama.....	471	818	2,349	3,637	117	4,227	1,505	5,850
Puerto Rico.....	518	126	228	872	504	269	430	1,203
South America	133,922	90,918	27,492	252,332	88,218	148,399	21,509	258,127
British Guiana.....	17,074	561	165	17,800	19,557	786	139	20,482
Falkland Islands.....	—	—	—	—	1	—	—	1
Argentina.....	5,570	843	2,116	8,529	1,507	538	694	2,738
Bolivia.....	1,003	1	411	1,415	244	—	23	267
Brazil.....	22,493	4,017	8,536	35,047	18,771	3,557	9,295	31,623
Chile.....	663	105	285	1,052	91	29	115	236
Colombia.....	14,075	4,474	4,665	23,215	11,720	7,919	5,181	24,820
Ecuador.....	962	95	1,632	2,688	339	677	2,747	3,763
French Guiana.....	3	—	—	3	—	—	—	—
Paraguay.....	187	33	40	260	358	157	5	520
Peru.....	2,261	302	365	2,928	1,566	565	134	2,264
Suriname.....	588	271	486	1,345	1,291	1,031	471	2,793
Uruguay.....	1,526	327	1,051	2,903	455	78	493	1,025
Venezuela.....	67,517	79,888	7,742	155,147	32,318	138,064	2,213	167,594
Grand Totals	192,531	102,624	47,087	342,242	155,537	172,229	34,144	361,911

¹ Less than \$500.

Section 4.—Trade by Commodities

The tables in this Section provide detailed information on the composition of Canada's imports and exports, with commodities shown by group and individually.

11.—Imports and Exports by Main Group 1953-55

Group	Imports			Domestic Exports			Total Trade ¹		
	1953	1954	1955	1953	1954	1955	1953	1954	1955
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
United Kingdom.....	453,391	392,472	400,531	665,232	653,408	769,313	1,122,265	1,050,786	1,174,525
Agricultural and vegetable products.....	26,506	28,159	29,341	305,302	227,241	272,142	331,835	255,471	301,672
Animals and animal products.....	13,447	10,539	13,251	18,581	21,874	17,859	32,326	32,793	31,772
Fibres, textiles and textile products.....	113,352	89,476	95,396	1,144	1,349	1,779	114,984	91,593	97,671
Wood, wood products and paper.....	4,972	5,108	5,813	110,604	146,657	157,983	115,626	151,815	163,825
Iron and its products...	161,540	129,895	111,993	27,481	15,515	30,486	190,233	147,496	144,361
Non-ferrous metals and their products.....	51,991	48,998	50,839	180,157	208,950	247,783	232,334	258,339	298,916
Non-metallic minerals and their products.....	30,154	28,490	32,009	8,603	12,271	18,549	38,903	41,143	51,121
Chemicals and allied products.....	18,551	18,590	22,626	8,551	15,676	19,945	27,236	34,439	42,705
Miscellaneous commodities.....	32,879	33,216	39,264	4,809	3,874	2,787	38,788	37,697	42,481
United States.....	3,221,214	2,961,380	3,452,178	2,418,914	2,317,153	2,559,343	5,684,266	5,328,818	6,064,360
Agricultural and vegetable products.....	218,294	251,286	269,514	271,298	213,325	160,528	490,648	466,454	432,756
Animals and animal products.....	55,226	53,147	66,943	179,372	183,721	181,457	237,185	239,448	251,254
Fibres, textiles and textile products.....	194,178	180,813	190,962	14,890	10,720	10,257	211,414	193,706	203,175
Wood, wood products and paper.....	146,848	149,925	176,996	1,091,450	1,107,411	1,221,026	1,239,181	1,258,017	1,398,887
Iron and its products...	1,324,656	1,143,658	1,432,479	182,872	168,580	225,315	1,523,958	1,333,465	1,680,037
Non-ferrous metals and their products.....	261,344	261,720	289,037	408,521	383,957	443,690	673,979	650,023	737,572
Non-metallic minerals and their products.....	415,704	334,613	350,550	107,009	98,413	149,440	530,283	440,033	508,722
Chemical and allied products.....	191,812	190,489	222,612	84,599	85,910	111,724	277,572	277,883	335,980
Miscellaneous commodities.....	413,151	395,729	453,085	78,904	65,115	55,906	500,046	469,789	515,977
All Countries.....	4,382,830	4,093,196	4,712,370	4,117,406	3,881,272	4,281,784	8,555,431	8,040,113	9,063,654
Agricultural and vegetable products.....	488,368	540,289	567,475	1,096,763	803,481	752,348	1,586,602	1,345,947	1,323,580
Animals and animal products.....	88,227	85,412	107,802	250,919	269,861	263,621	342,226	358,353	375,099
Fibres, textiles and textile products.....	387,115	333,324	381,613	24,333	20,969	22,816	415,238	358,216	407,193
Wood, wood products and paper.....	160,951	166,001	195,959	1,295,396	1,378,354	1,520,921	1,457,344	1,545,164	1,717,869
Iron and its products...	1,531,556	1,322,497	1,605,968	358,438	300,692	398,782	1,911,354	1,649,116	2,034,010
Non-ferrous metals and their products.....	364,571	357,185	398,793	682,183	709,017	826,390	1,051,642	1,071,457	1,231,069
Non-metallic minerals and their products.....	658,476	599,216	663,684	147,393	145,573	206,200	813,795	752,560	879,553
Chemicals and allied products.....	221,834	220,406	260,499	137,885	161,293	210,040	361,446	383,623	472,614
Miscellaneous commodities.....	481,733	468,866	530,578	124,095	92,031	80,666	615,784	575,677	622,668

¹ Includes exports of foreign produce.

12.—Leading Imports 1939, 1946 and 1952-55

NOTE.—Commodities are arranged in order of value in 1955.

Commodity	1939	1946	1952	1953	1954	1955
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Machinery (non-farm) and parts.....	42,831	130,287	360,969	401,856	380,219	445,875
Automobile parts (except engines).....	25,308	66,453	190,337	222,284	180,433	246,505
Petroleum, crude and partly refined.....	39,650	89,483	210,036	213,094	212,787	229,779
Electrical apparatus, <i>n.o.p.</i>	27,891	47,788	139,567	198,275	207,539	226,715
Aircraft and parts (except engines).....	5,550	9,448	95,212	111,803	100,397	138,091
Rolling mill products (iron and steel).....	32,336	53,376	143,133	124,813	97,563	129,679
Tractors and parts.....	15,003	45,620	119,253	126,354	82,814	115,375
Engines, internal combustion, and parts.....	7,096	19,650	126,332	107,736	84,914	100,917
Automobiles, passenger.....	13,725	25,209	49,484	79,454	60,846	83,726
Fuel oils.....	1,650	33,066	64,908	65,151	70,921	77,754
Coal, bituminous.....	19,640	77,052	99,571	94,680	70,445	74,453
Non-commercial items.....	5,430	14,173	47,095	60,923	56,763	72,939
Tourist purchases.....	9,487	9,125	66,682	73,840	68,767	71,467
Farm implements and machinery (except tractors) and parts.....	5,915	22,732	78,044	82,795	60,351	62,874
Cotton, raw.....	17,176	42,812	65,956	55,494	52,441	61,031
Principal chemicals (except acids) <i>n.o.p.</i>	12,321	16,734	49,824	54,505	46,193	57,677
Coffee, green.....	4,110	15,473	50,775	57,595	64,214	57,010
Cotton fabrics.....	10,935	54,163	53,248	55,906	46,012	53,400
Paperboard, paper and products.....	8,654	18,834	29,921	39,208	43,558	52,690
Sugar, unrefined.....	9,983	32,416	59,546	47,491	51,519	52,312
Pipes, tubes and fittings (iron and steel).....	2,340	8,411	57,261	58,327	59,680	50,290
Rubber, crude and semi-fabricated.....	12,860	10,013	29,287	26,408	24,267	44,110
Refrigerators and freezers.....	1,189	5,201	43,891	55,530	38,863	43,935
Parcels of small value.....	4,185	14,460	33,691	32,396	40,637	41,639
Synthetic plastics, primary forms.....	2,506	15,386	23,020	32,498	34,893	41,072
Apparel (except hats) of all textiles.....	6,941	12,222	26,091	35,672	33,860	39,039
Vegetables, fresh.....	6,150	25,748	37,969	29,250	33,028	38,852
Cooking and heating apparatus, and parts.....	2,332	10,462	22,444	33,538	31,557	36,324
Gasoline.....	7,998	14,912	39,148	48,650	34,564	35,831
Newspapers, magazines and advertising matter.....	8,436	13,434	28,385	33,446	34,067	34,794
Logs, timber and lumber.....	3,767	6,035	20,798	23,585	23,995	32,773
Wool fabrics.....	10,408	20,115	32,213	41,743	32,367	31,948
Iron ore.....	4,179	6,467	26,519	28,194	20,416	31,563
Automobiles, freight.....	1,949	6,493	11,743	17,304	15,134	30,442
Coal, anthracite.....	21,938	41,987	49,430	40,079	33,144	30,124
Citrus fruits, fresh.....	8,860	34,632	26,712	26,506	31,272	29,903
Tools.....	2,377	10,135	22,566	31,004	23,599	26,739
Books, printed.....	4,238	11,272	18,391	21,378	23,891	26,035
Tea, black.....	9,753	10,202	18,687	19,736	23,581	25,583
Drugs and medicines.....	3,992	9,440	22,111	22,877	25,328	25,018

13.—Leading Domestic Exports 1939, 1946 and 1952-55

NOTE.—Commodities are arranged in order of value in 1955.

Commodity	1939	1946	1952	1953	1954	1955
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newsprint paper.....	115,687	265,865	591,790	619,033	635,670	665,877
Planks and boards.....	48,829	125,391	295,949	282,736	324,724	385,313
Wheat.....	109,051	250,306	621,292	567,907	375,339	338,216
Wood pulp.....	31,000	114,021	291,863	248,675	271,418	297,304
Nickel, primary and semi-fabricated.....	57,934	55,205	150,982	162,542	182,154	215,169
Aluminum, primary and semi-fabricated.....	25,950	51,390	155,106	173,378	182,392	210,971
Copper, primary and semi-fabricated.....	52,396	34,940	100,806	117,351	127,334	163,924
Iron ore.....	43	4,353	22,333	30,843	39,719	99,814
Asbestos, unmanufactured.....	2,902	23,839	86,510	83,973	82,566	94,804
Barley.....	7,882	9,688	145,684	136,729	89,363	76,461
Wheat flour.....	16,378	126,733	116,055	102,160	88,029	74,442
Farm implements and machinery (except tractors) and parts.....	6,975	28,662	95,692	67,821	70,819	72,206
Zinc, primary and semi-fabricated.....	9,922	27,659	96,283	57,572	58,392	70,558
Whisky.....	7,914	29,650	54,254	63,086	59,156	60,682
Fertilizers, chemical.....	9,179	32,108	42,293	42,633	42,342	56,296
Fish, fresh and frozen.....	10,212	31,110	52,852	51,219	56,650	55,263
Pulpwood.....	10,901	28,731	64,820	45,859	45,766	48,655
Lead, primary and semi-fabricated.....	9,850	16,715	49,676	37,835	40,530	37,194
Petroleum, crude.....	1	—	3,452	6,228	6,318	36,253
Machinery (non-farm) and parts.....	10,873	15,535	47,378	37,282	36,676	35,789
Pigs, ingots, blooms and billets (iron and steel).....	2,691	3,328	25,032	29,508	11,212	33,695
Flax seed (chiefly for crushing).....	1	11	16,038	11,546	13,717	31,279
Plywoods and veneers.....	1,608	12,026	18,655	19,025	21,555	30,104
Shingles.....	8,225	11,211	20,002	20,913	24,182	29,145
Fur skins, undressed.....	14,130	30,928	23,507	21,070	22,997	28,287
Synthetic plastics, primary forms.....	351	1,540	5,860	9,456	19,994	27,365
Abrasives, artificial, crude.....	4,380	11,727	17,701	28,976	27,222	26,942
Tobacco, unmanufactured.....	10,183	5,892	22,221	15,683	18,086	26,547
Platinum metals, unmanufactured.....	6,178	15,450	30,627	26,290	27,640	26,315
Non-commercial items.....	2,402	39,951	18,720	20,295	21,054	25,227
Fish, cured.....	3,884	13,808	25,538	22,271	23,341	23,939
Scrap iron and steel.....	1,021	166	4,187	15,877	15,868	20,936
Electrical apparatus, <i>n.o.p.</i>	3,229	20,939	33,892	37,705	22,913	20,700
Automobile parts (except engines).....	2,992	21,110	18,549	16,999	15,375	20,333
Rolling mill products (iron and steel).....	3,864	7,528	18,844	16,863	5,393	20,313
Molluscs and crustaceans.....	3,542	14,162	17,510	17,588	17,322	20,246
Aircraft and parts (except engines).....	347	9,507	37,503	40,247	28,442	19,906
Silver, unmanufactured.....	8,525	3,490	15,448	16,845	18,953	19,343
Fish, canned.....	10,104	26,618	11,554	16,202	25,820	18,217
Engines, internal combustion, and parts.....	202	1,737	4,260	6,340	16,077	17,391

¹ Less than \$500.

Detailed Imports and Exports.—Detailed statistics of all commodities of any importance imported into Canada from all countries, from the United Kingdom and from the United States during the calendar years 1951-54 are given in Table 14 while corresponding statistics for domestic exports appear in Table 15.

14.—Principal Imports into Canada for Consumption from All Countries,

No.	Item	All Countries			
		1951	1952	1953	1954
I. Agricultural and Vegetable Products					
A. MAINLY FOOD					
	Fruits—				
1	Fruits, fresh..... \$	59,687,372	63,460,360	66,997,129	74,493,229
2	Fruits, dried..... lb. \$	90,770,584	99,007,788	112,161,647	123,216,097
		12,752,567	12,952,208	15,320,398	18,058,213
3	Fruits, canned or preserved..... \$	13,541,824	13,276,921	13,088,744	13,597,322
4	Fruit juices and fruit syrups..... gal. \$	10,686,943	13,811,557	15,244,162	13,990,259
		8,753,428	10,071,300	13,881,768	13,099,921
	Totals, Fruits..... \$	94,735,191	99,760,789	109,288,039	119,249,685
5	Nuts..... \$	22,780,324	21,077,298	20,049,212	22,600,716
	Vegetables—				
6	Vegetables, fresh..... \$	26,295,324	37,968,933	29,250,036	33,027,779
7	Vegetables, dried..... \$	1,598,925	1,353,918	2,756,469	3,413,166
8	Vegetables, canned..... lb. \$	14,558,732	33,546,967	16,881,421	58,517,119
		1,848,116	3,477,283	2,170,766	5,975,589
9	Pickles, sauces and catsups..... gal. \$	1,830,485	3,313,928	3,904,666	1,733,409
		1,647,830	2,960,110	3,484,280	2,107,367
	Totals, Vegetables..... \$	31,390,195	45,760,244	37,661,551	44,523,901
	Grains and Farinaceous Products—				
10	Grains..... \$	40,799,292	32,106,932	28,317,002	40,148,621
11	Milled products..... \$	1,060,661	1,476,553	829,507	794,858
12	Prepared foods and bakery products..... \$	3,911,085	3,849,491	5,413,041	5,711,988
13	Other farinaceous products..... \$	315,013	330,027	506,647	464,250
	Totals, Grains and Farinaceous Products.... \$	46,086,051	37,763,003	35,066,197	47,119,717
14	Oils, vegetable, for food..... \$	4,020,548	2,134,033	2,821,097	2,322,298
15	Sugar and its products..... \$	85,862,388	71,299,307	60,046,405	62,769,616
16	Cocoa and chocolate..... \$	11,733,095	15,022,057	16,406,430	25,135,841
17	Coffee and chicory..... lb. \$	89,765,806	99,739,245	110,106,693	98,722,917
		49,597,626	52,873,922	60,858,498	67,656,952
18	Spices..... lb. \$	5,390,009	4,556,424	5,579,412	6,141,230
		3,755,983	3,095,958	3,564,237	2,771,920
19	Tea..... lb. \$	42,456,287	45,908,126	45,839,662	44,983,719
		21,017,954	18,825,750	19,872,205	23,798,803
20	Other vegetable products mainly food..... \$	2,690,506	2,905,380	3,822,574	4,270,066
	TOTALS, A. MAINLY FOOD..... \$	373,669,861	370,517,741	369,456,445	422,219,515
B. OTHER THAN FOOD					
	Beverages, Alcoholic—				
21	Brewed..... \$	245,634	253,753	274,300	285,780
22	Distilled..... pt. gal. \$	3,098,723	3,995,406	3,867,588	3,367,580
		15,589,620	17,457,092	16,693,085	15,361,454
23	Wines..... \$	2,545,267	2,998,745	3,351,616	3,895,163
	Totals, Beverages, Alcoholic..... \$	18,380,521	20,709,590	20,319,001	19,542,397
24	Gums and resins..... \$	6,450,067	5,052,344	5,056,834	5,824,937
25	Oil cake and oil cake meal..... cwt. \$	921,977	442,715	745,566	1,405,022
		3,781,402	2,088,690	2,754,877	5,251,047
26	Oils, vegetable, not food..... \$	34,929,198	20,343,128	23,243,412	24,143,735
27	Plants, shrubs, trees and vines..... \$	2,932,625	3,393,741	3,921,609	4,240,300
28	Rubber and manufactures of..... \$	54,529,303	52,134,919	50,569,545	45,738,600
29	Seeds..... \$	8,453,292	4,716,096	2,511,908	3,335,102
30	Tobacco and manufactures of..... \$	3,668,036	4,623,941	5,204,043	4,814,738
31	Other vegetable products, not food..... \$	5,846,864	5,612,188	5,330,469	5,178,205
	TOTALS, B. OTHER THAN FOOD..... \$	168,971,308	118,674,637	118,911,698	118,069,061
	Totals, Agricultural and Vegetable Products..... \$	542,641,169	489,192,378	488,368,143	540,288,576

the United Kingdom and the United States 1951-54

United Kingdom				United States				No.
1951	1952	1953	1954	1951	1952	1953	1954	
—	114	2,959	9,791	37,890,484	40,062,655	41,581,352	48,798,961	1
48	770	79,170	297,547	38,040,220	43,679,875	44,233,950	60,636,048	2
22	65	5,804	17,275	6,194,660	6,077,580	6,388,328	8,787,880	
599,566	687,490	854,710	876,850	5,789,100	5,893,862	6,069,348	5,574,722	3
11,675	21,391	29,065	32,724	9,327,771	11,833,425	12,169,363	12,019,764	4
18,981	31,085	47,133	44,174	7,710,801	8,798,197	11,874,916	11,634,106	
618,569	718,754	910,606	948,090	57,585,045	60,832,294	65,910,944	74,795,669	
59,870	92,425	185,215	166,878	3,979,964	3,637,487	3,833,429	5,007,054	5
1,186	34,657	336	1,175	22,677,187	34,053,975	25,867,969	30,249,115	6
1,042,882	497,476	355,889	335,378	474,356	780,724	2,292,872	2,945,894	7
9,169	3,295	51,061	28,711	9,448,669	27,030,120	12,276,659	46,478,666	8
920	612	7,268	3,561	1,038,858	2,544,524	1,475,965	4,399,313	
9,161	16,607	23,120	21,801	1,436,783	2,988,797	3,383,398	1,280,522	9
23,016	46,698	59,949	52,695	1,264,765	2,549,428	2,886,173	1,576,344	
1,068,004	579,443	423,442	392,809	25,455,166	39,928,651	32,522,979	39,170,666	
—	11	1,392	4,888	37,612,833	31,383,375	27,528,204	37,869,967	10
2,223	1,171	4,193	2,640	1,047,205	1,458,150	747,607	767,476	11
2,360,576	2,189,811	2,797,156	2,351,848	1,423,660	1,494,433	2,335,190	2,930,150	12
601	385	610	137	220,303	249,206	355,722	362,563	13
2,363,400	2,191,378	2,803,351	2,359,513	40,304,001	34,585,164	30,966,723	41,930,156	
—	3,174	51,963	14,860	3,752,334	1,663,387	2,275,769	1,657,177	14
3,121,993	4,631,470	4,655,116	4,401,140	1,440,132	2,493,035	3,263,403	2,763,869	15
275,339	974,847	471,358	844,803	3,313,542	6,149,396	6,368,666	12,808,784	16
371,117	251,382	1,400,889	2,892,706	1,903,475	2,850,982	4,568,029	3,571,167	17
213,059	140,444	793,520	1,800,016	1,574,840	2,550,403	4,396,290	3,825,322	18
603,472	695,058	727,090	785,659	832,399	554,788	549,631	641,920	
311,369	320,598	342,582	326,822	543,922	397,663	335,137	420,884	19
513,491	1,836,029	4,264,866	4,394,482	48,808	138,464	35,101	90,442	
290,363	673,941	2,179,138	2,814,203	24,539	81,370	20,865	53,339	20
239,359	388,058	334,721	519,840	2,326,257	2,288,009	3,375,146	3,647,416	
8,561,325	10,714,532	13,151,012	14,588,974	140,299,742	154,606,868	153,287,351	186,080,336	
—	—	—	—	—	—	—	—	21
236,890	246,417	269,491	275,190	20	—	—	—	22
1,312,207	1,363,027	1,429,456	1,426,205	636,425	1,416,293	1,398,180	907,442	
9,195,573	9,364,340	9,605,443	9,268,580	2,186,655	3,563,214	2,842,811	1,803,029	23
191,175	323,926	387,124	450,486	34,085	14,549	41,067	51,639	
9,623,638	9,934,683	10,262,058	9,994,256	2,220,760	3,577,763	2,883,878	1,854,668	
90,289	60,262	69,301	83,344	5,306,051	4,408,481	4,413,466	4,444,951	24
—	—	—	—	921,977	442,715	745,566	1,392,565	25
426,505	562,823	677,556	1,221,163	3,781,402	2,088,690	2,754,877	5,196,419	26
65,169	40,663	25,088	21,183	15,436,530	16,302,665	14,323,059	15,037,790	27
1,775,640	1,520,531	1,859,897	1,864,980	1,256,569	1,471,479	1,835,460	2,057,080	28
444,208	461,576	124,375	56,536	26,146,489	27,759,569	29,384,265	26,496,599	29
131,272	141,266	185,932	209,387	6,881,649	3,105,611	1,640,796	2,365,733	30
197,544	288,385	150,461	118,948	2,320,362	3,147,777	3,627,817	3,460,563	31
—	—	—	—	4,801,067	4,178,227	4,143,091	4,292,173	
12,754,265	13,010,189	13,354,668	13,569,797	68,150,879	66,040,262	65,006,709	65,205,976	
21,315,590	23,724,721	26,505,680	28,158,771	208,450,621	220,647,130	218,294,060	251,286,312	

14.—Principal Imports into Canada for Consumption from All Countries,

No.	Item	All Countries			
		1951	1952	1953	1954
II. Animals, Fishery, and Animal Products					
1	Animals, living..... \$	3,166,889	3,552,968	3,632,845	3,774,200
2	Bone, ivory and shell products..... \$	1,100,573	960,455	928,361	910,591
3	Feathers and quills and manufactures of..... \$	802,038	602,364	403,719	326,656
Fishery Products <i>n.o.p.</i> —					
4	Fish, fresh or frozen..... \$	2,309,562	1,833,027	1,873,801	2,572,294
5	Fish, salted, dried, smoked or pickled..... lb.	2,576,317	3,317,003	3,371,974	3,539,289
	..... \$	380,037	472,259	470,824	518,381
6	Fish, canned or preserved <i>n.o.p.</i> \$	2,833,849	2,919,177	3,744,548	4,136,564
7	Other fishery products <i>n.o.p.</i> \$	901,660	1,040,631	1,430,646	1,298,279
Totals, Fishery Products <i>n.o.p.</i> \$		6,425,108	6,265,094	7,519,819	8,525,518
8	Furs and manufactures of..... \$	21,586,369	23,513,823	21,011,727	18,909,911
9	Hairs and bristles and manufactures of..... \$	3,296,611	1,735,243	2,519,077	1,365,570
10	Hides and skins, raw (except fur skins)..... No.	2,715,160	2,138,115	2,122,075	2,109,035
	..... \$	14,211,736	6,151,353	6,893,889	5,129,397
11	Leather, unmanufactured..... \$	9,413,621	7,618,838	9,218,846	7,763,948
12	Leather, manufactured..... \$	7,618,333	7,330,476	9,994,223	8,649,089
13	Meats..... \$	23,509,614	9,723,487	13,100,122	15,276,578
14	Milk and its products..... \$	13,858,047	7,701,597	2,986,701	3,061,863
15	Oils, fats, greases and waxes..... \$	9,846,662	2,731,791	3,797,972	3,902,177
16	Other animal products..... \$	10,726,422	7,652,380	6,219,349	7,816,318
Totals, Animals, Fishery, and Animal Products..... \$		125,562,023	85,539,869	88,226,650	85,411,816
III. Fibres and Textiles					
17	Cotton and Its Products—				
	Cotton, raw and unmanufactured..... lb.	214,707,322	180,609,739	174,543,746	166,929,845
	..... \$	96,569,667	67,609,703	57,084,800	54,000,228
18	Yarn, thread and cordage..... lb.	8,620,429	7,346,219	8,835,130	6,720,015
	..... \$	15,304,761	9,724,564	10,145,550	7,855,610
19	Piece goods (fabrics)..... lb.	41,394,177	43,853,849	48,444,349	40,926,656
	..... \$	54,984,071	53,247,824	55,905,850	46,011,962
20	Other cotton products..... \$	16,290,789	18,613,967	24,369,472	22,496,299
Totals Cotton and Its Products..... \$		183,149,288	149,196,058	147,505,672	130,364,099
21	Flax, hemp, jute and manufactures of..... \$	31,091,992	23,634,618	21,923,906	20,639,792
22	Silk and manufactures of..... \$	7,631,573	6,737,895	6,498,282	6,355,293
23	Wool and Its Products—				
	Wool, raw and unmanufactured..... lb.	44,586,013	32,449,179	40,441,143	26,319,356
	..... \$	94,809,397	28,919,148	42,748,466	28,491,009
24	Piece goods (fabrics)..... lb.	9,647,393	10,061,631	13,194,618	11,801,381
	..... \$	38,566,565	32,212,824	41,742,778	32,366,877
25	Other woollen products..... \$	29,156,198	20,614,606	31,001,831	27,624,886
Totals, Wool and Its Products..... \$		162,532,160	81,746,578	115,493,075	88,482,772
26	Synthetic textile fibre and manufactures of..... \$	35,452,640	40,128,726	46,586,154	40,823,156
27	Other textile products..... \$	63,662,729	57,996,142	49,107,837	46,659,122
Totals, Fibres and Textiles..... \$		483,520,382	359,440,017	387,114,926	333,324,234
IV. Wood, Wood Products and Paper					
28	Lumber and timber..... M ft.	132,538	151,778	158,783	169,066
	..... \$	17,776,625	17,237,513	18,779,872	19,633,633
29	Other wood, unmanufactured..... \$	10,440,991	10,490,659	11,906,510	10,859,971
30	Wood, manufactured..... \$	23,084,326	20,396,153	22,699,053	23,894,742
31	Paper and manufactures of..... \$	34,831,145	29,920,960	39,208,074	43,558,314
32	Books and printed matter..... \$	50,913,423	56,508,336	68,357,706	68,054,160
Totals, Wood, Wood Products and Paper.. \$		137,046,510	134,553,621	160,951,215	166,000,820

the United Kingdom and the United States 1951-54—continued

United Kingdom				United States				No.
1951	1952	1953	1954	1951	1952	1953	1954	
327,277	248,035	478,920	285,505	2,803,224	3,280,507	3,092,693	3,458,570	1
340,788	328,739	332,178	339,020	622,223	527,795	515,689	516,190	2
48,784	7,865	20,950	28,592	346,518	305,068	218,153	172,605	3
849	4,797	7,479	4,707	1,399,541	1,131,297	1,482,139	1,629,187	4
586,782	679,832	750,695	1,031,171	140,342	168,538	193,705	191,633	5
83,577	84,563	104,023	139,697	28,108	33,096	33,864	36,537	6
29,763	76,899	57,468	77,950	1,005,629	1,210,054	1,659,401	1,525,527	7
3,209	2,541	7,210	2,767	691,282	905,949	1,194,021	1,153,313	8
117,398	168,800	176,180	225,121	3,124,560	3,280,396	4,369,425	4,344,564	9
1,914,672	2,033,476	2,255,670	1,704,167	16,794,008	17,408,708	15,872,424	15,340,692	10
14,547	143,863	240,698	138,630	2,873,133	860,756	790,247	500,074	11
30,696	55,711	126,518	37,744	1,789,499	1,807,382	1,722,288	1,750,032	12
77,455	52,299	133,550	36,366	9,878,810	5,414,370	6,162,404	4,590,757	13
5,372,166	3,536,594	4,470,997	3,650,672	3,417,541	3,915,157	4,408,445	3,744,927	14
3,182,012	2,808,103	3,900,209	3,236,095	3,683,764	3,808,906	5,059,081	4,405,576	15
545,646	164,745	148,721	171,770	15,424,396	4,982,732	8,840,070	8,025,925	16
13,180	14,702	12,953	13,853	721,330	467,561	352,297	448,142	17
126,971	90,684	688,016	102,939	9,508,522	2,395,300	2,656,886	3,310,666	18
697,187	577,334	588,041	606,750	4,347,679	3,048,934	2,888,439	4,288,147	19
12,778,083	10,175,239	13,447,083	10,539,480	73,545,708	49,696,190	55,226,253	53,146,835	20
54,862	291,212	578,053	302	211,276,537	149,134,322	139,936,032	155,380,861	21
21,470	17,650	214,870	188	95,178,118	57,737,777	46,449,298	50,884,274	22
3,741,346	2,252,327	4,134,135	2,888,448	4,492,970	5,031,139	4,636,144	3,757,718	23
7,676,557	3,557,918	4,948,088	3,766,880	7,062,689	6,047,502	5,076,007	3,960,528	24
3,030,389	2,500,994	3,283,244	2,534,583	28,843,776	38,654,984	38,439,102	32,199,065	25
7,203,247	5,203,138	6,546,352	5,486,654	39,418,797	44,897,663	43,837,118	35,752,050	26
5,364,333	3,798,144	4,484,349	3,501,304	6,939,534	11,782,875	15,921,775	14,941,823	27
20,265,607	12,576,850	16,193,659	12,755,026	148,599,138	120,465,817	111,284,198	105,538,675	28
6,790,943	4,933,563	5,304,147	5,088,955	4,926,107	4,590,662	3,851,399	3,614,527	29
682,259	460,574	388,029	359,612	4,350,497	4,416,215	3,910,279	3,716,191	30
16,304,644	10,016,731	14,074,403	10,925,501	3,736,617	1,882,679	3,410,328	2,634,977	31
43,147,632	12,447,219	20,320,999	14,766,924	6,848,112	1,806,300	3,454,449	2,582,499	32
8,305,733	9,257,474	12,266,265	10,383,344	182,739	275,031	277,070	358,172	33
32,699,043	29,417,301	38,424,565	29,333,682	547,103	694,566	978,906	1,040,188	34
20,400,441	14,226,025	20,763,746	17,166,166	1,472,902	1,540,260	2,287,973	1,847,004	35
96,247,116	56,090,545	79,509,310	61,266,772	8,868,117	4,041,126	6,721,328	5,469,691	36
5,993,749	5,033,431	4,867,070	2,949,244	20,402,147	29,851,157	35,651,965	33,895,313	37
9,114,459	7,336,671	7,089,876	7,056,702	33,819,535	34,004,486	32,758,675	28,778,904	38
139,094,133	86,431,634	113,352,091	89,476,311	230,965,541	197,369,463	194,177,844	180,813,301	39
11,684	260	105	7	125,688	147,036	150,464	163,146	40
12,925	41,427	22,935	287	16,506,994	16,401,433	17,564,336	18,244,266	41
422,694	445,781	799,804	5,854	9,689,455	10,105,381	10,506,169	9,280,483	42
1,580,458	1,411,918	1,316,272	1,596,079	19,664,596	16,672,267	18,653,379	19,890,089	43
2,317,197	2,438,747	2,829,592	3,016,790	32,758,186	28,060,689	37,040,284	40,678,488	44
4,344,958	4,338,133	4,971,665	5,108,095	47,010,383	52,276,802	63,084,018	61,831,939	45
				125,629,614	123,516,554	146,848,186	149,925,265	46

14.—Principal Imports into Canada for Consumption from All Countries,

No.	Item	All Countries			
		1951	1952	1953	1954
V. Iron and Its Products					
1	Iron ore..... ton	3,831,418	4,267,658	4,167,571	3,035,191
	\$	22,671,265	26,519,451	28,193,710	20,415,600
2	Ferro-alloys..... \$	4,259,507	4,318,859	1,420,019	3,085,000
3	Pigs, ingots, blooms and billets..... \$	11,387,617	12,265,573	3,938,728	1,850,802
4	Scrap iron or steel..... \$	3,854,606	6,840,473	3,477,794	2,048,357
5	Castings and forgings..... \$	13,739,383	12,812,225	12,648,809	10,303,829
6	Rolling mill products..... \$	173,127,013	143,132,810	124,812,769	97,563,432
7	Tubes, pipes and fittings..... \$	43,182,776	57,260,868	58,327,482	59,679,685
8	Wire..... \$	12,303,865	12,217,796	9,457,645	9,283,506
9	Chains..... \$	4,470,801	4,899,907	4,070,736	3,425,969
10	Engines and boilers..... \$	88,421,897	136,068,401	116,729,688	91,727,097
11	Farm implements and machinery..... \$	195,081,777	197,266,261	209,143,129	143,163,284
12	Hardware and cutlery..... \$	16,899,982	14,345,061	16,202,007	16,373,609
13	Machinery (except agricultural)..... \$	328,741,288	360,969,466	401,855,756	380,219,299
14	Springs..... \$	119,148	242,430	233,670	198,635
15	Stamped and coated products..... \$	10,128,840	9,677,168	11,668,309	12,009,452
16	Tools and hand implements..... \$	19,117,292	22,565,650	31,003,887	23,598,533
Vehicles and Parts—					
17	Automobiles, freight..... No.	5,642	4,087	5,103	4,681
	\$	13,991,589	11,742,706	17,304,400	15,134,491
18	Automobiles, passenger..... No.	42,692	34,906	53,372	38,801
	\$	56,632,484	49,483,641	79,454,061	60,846,411
19	Automobile parts..... \$	195,177,254	190,337,126	222,283,607	180,433,400
20	Other vehicles..... \$	17,309,597	22,362,198	38,207,588	52,238,521
	Totals, Vehicles and Parts..... \$	283,110,924	273,925,671	357,249,656	308,652,823
21	Other iron and steel products..... \$	101,633,382	111,298,828	141,121,789	138,898,475
	Totals, Iron and Its Products..... \$	1,332,251,363	1,406,626,898	1,531,555,583	1,322,497,387
VI. Non-ferrous Metals					
Aluminum—					
22	Bauxite..... cwt.	48,035,179	49,097,381	53,769,306	59,108,386
	\$	15,373,013	12,915,009	16,583,744	20,064,266
23	Aluminum and manufactures of, <i>n.o.p.</i> \$	12,698,393	9,725,059	16,577,726	17,449,612
	Totals, Aluminum..... \$	28,071,406	22,640,068	33,161,470	37,513,878
24	Brass and manufactures of..... \$	16,422,410	13,429,998	17,795,987	18,092,353
25	Copper and manufactures of..... \$	4,052,877	10,925,982	9,928,043	4,319,816
26	Lead and manufactures of..... \$	786,269	532,388	436,918	367,805
27	Nickel and manufactures of..... \$	6,098,654	5,481,997	7,412,689	4,955,121
28	Precious metals and manufactures of..... \$	30,208,153	27,645,543	30,859,243	32,998,223
29	Tin and its products..... \$	19,626,067	10,672,578	8,363,792	7,576,156
30	Zinc and manufactures of..... \$	4,261,378	2,840,328	3,466,279	2,768,168
31	Alloys, <i>n.o.p.</i> \$	2,092,860	1,785,599	1,187,594	1,279,748
32	Clocks and watches..... \$	10,213,573	9,631,178	13,536,815	10,655,227
33	Electrical apparatus, <i>n.o.p.</i> \$	120,101,053	139,567,267	198,275,341	207,539,267
34	Gas apparatus..... \$	775,929	552,747	773,581	833,827
35	Printing materials..... \$	2,184,479	1,899,059	2,065,556	2,348,133
36	Other non-ferrous metals..... \$	45,953,375	49,270,512	37,308,033	25,937,422
	Totals, Non-ferrous Metals..... \$	290,848,483	296,875,244	364,571,341	357,185,144
VII. Non-metallic Minerals					
37	Asbestos and manufactures of..... \$	3,428,453	3,398,361	3,310,175	3,539,132
38	Clay and manufactures of..... \$	43,403,839	37,483,324	40,559,444	36,679,584
Coal and Its Products—					
39	Coal, anthracite..... ton	3,853,431	3,894,863	2,989,054	2,754,882
	\$	51,244,639	49,433,409	40,088,265	33,163,183
40	Coal, bituminous and coal, <i>n.o.p.</i> ton	22,947,974	21,037,990	20,276,487	45,379,341
	\$	116,844,809	101,236,846	96,479,188	71,632,015
41	Coke..... ton	956,755	825,259	656,259	542,505
	\$	16,911,483	13,464,933	11,565,770	8,733,783
42	Other coal products..... \$	5,367,309	4,068,257	5,089,685	5,172,941
	Totals, Coal and Its Products..... \$	190,368,240	168,203,445	153,222,908	118,701,922

the United Kingdom and the United States 1951-54—continued

United Kingdom				United States				No.
1951	1952	1953	1954	1951	1952	1953	1954	
—	11	—	—	3,690,269	4,106,737	4,008,810	2,935,237	1
—	586	—	—	21,329,066	24,196,991	25,705,847	19,086,037	2
16,097	233,007	65,257	1,090,915	2,935,699	2,929,219	1,297,717	1,951,272	3
2,343	273	33,191	248,143	10,493,226	12,253,425	3,307,713	1,291,786	4
23,925	561	728	407	3,221,800	6,463,791	2,253,879	1,571,214	5
5,214,799	4,583,922	3,948,505	4,436,033	8,486,671	7,779,767	8,383,088	5,627,819	6
19,926,906	13,679,216	15,156,653	10,079,667	120,308,700	105,660,277	99,930,686	79,745,375	7
9,712,871	10,434,660	9,904,859	10,277,204	31,470,258	44,666,910	45,471,839	43,965,490	8
2,933,122	2,605,180	2,876,328	3,388,903	8,900,762	9,244,241	6,121,529	4,849,860	9
613,034	720,188	532,344	581,027	3,819,233	4,131,453	3,405,466	2,700,943	10
8,692,858	10,965,873	19,468,251	15,097,222	79,566,355	124,839,820	96,643,373	75,994,224	11
6,877,118	6,400,701	5,440,814	5,192,276	187,581,155	190,122,002	202,780,530	136,760,243	12
2,317,343	1,879,922	2,902,693	3,176,767	12,271,447	10,666,683	11,042,021	10,524,772	13
21,373,473	33,533,249	46,784,124	35,112,748	296,978,195	314,085,222	339,052,657	328,431,465	14
19,248	5,446	14,243	3,570	99,900	235,941	216,474	194,252	15
517,107	342,838	461,634	411,923	9,278,468	9,119,524	10,854,225	11,127,279	16
2,664,520	2,983,767	3,492,231	2,423,571	14,900,400	17,313,990	25,099,239	18,819,270	17
2,267	1,057	855	318	3,375	2,996	3,938	3,853	18
2,405,202	1,114,046	1,286,521	400,097	11,586,387	10,591,121	15,690,026	14,171,251	19
28,518	20,748	28,141	17,483	14,105	14,053	23,687	18,187	20
26,506,824	19,637,203	28,475,498	17,089,234	30,077,048	29,734,701	49,554,083	41,286,345	21
5,760,199	3,693,936	4,246,390	3,098,654	189,341,446	186,556,394	217,809,816	177,170,641	22
2,899,296	1,970,276	6,728,952	7,856,667	13,985,787	20,142,949	31,139,400	43,793,473	23
37,571,521	26,415,461	40,737,361	28,444,652	244,990,668	247,025,165	314,193,325	276,421,710	24
8,077,071	7,753,815	9,720,976	9,930,232	90,212,316	100,066,764	128,896,174	124,594,616	25
126,553,356	122,538,665	161,540,192	129,895,260	1,146,844,319	1,230,801,185	1,324,655,782	1,143,657,627	26
—	—	—	—	2,792,244	1,758,157	1,353,164	1,023,123	27
1,948,806	1,158,941	3,922,476	3,698,243	3,149,235	1,485,043	1,618,710	1,054,455	28
—	—	—	—	10,109,553	8,156,839	12,548,423	12,655,319	29
1,948,806	1,158,941	3,922,476	3,698,243	13,258,788	9,641,852	14,167,133	13,709,774	30
843,498	731,671	1,171,547	1,434,427	15,352,644	12,367,644	16,296,439	16,097,303	31
436,778	283,556	1,546,197	930,001	2,938,860	10,630,311	4,230,502	2,427,596	32
211,476	275,478	135,795	114,889	245,229	206,227	245,919	189,004	33
496,528	399,425	336,885	323,620	5,236,512	4,526,170	6,379,799	4,221,253	34
18,284,492	18,191,385	17,471,716	18,918,207	10,512,169	9,038,780	12,591,823	13,031,945	35
2,515,464	646,139	1,059,833	818,681	5,113,020	906,091	181,486	1,497,982	36
48,741	15,022	48,125	82,876	4,123,946	2,744,457	3,375,216	2,543,943	37
545,040	429,283	374,701	427,776	1,541,081	1,308,404	785,217	746,651	38
331,395	374,806	292,577	168,247	3,987,431	3,094,797	4,096,199	2,938,727	39
14,669,101	18,050,315	22,557,492	18,643,979	103,560,737	118,822,867	172,292,968	183,180,656	40
8,525	13,522	25,428	65,297	707,473	534,719	738,027	751,368	41
89,044	40,788	59,796	68,094	2,083,692	1,851,636	1,992,454	2,257,810	42
2,192,032	2,592,521	2,988,003	3,303,440	24,165,026	22,365,276	23,970,030	18,125,636	43
42,620,918	43,202,852	51,990,571	48,997,777	192,826,608	198,039,231	261,344,212	261,719,648	44
635,049	534,648	413,389	507,980	2,706,742	2,795,749	2,860,994	2,966,700	45
16,933,548	13,490,607	14,133,903	13,882,927	24,418,877	22,482,782	24,619,175	20,595,539	46
291,656	344,743	338,861	266,250	3,561,775	3,550,120	2,650,193	2,754,092	47
3,397,935	4,382,614	4,662,312	3,602,865	47,846,704	45,050,795	35,425,953	29,554,234	48
—	11,289	13,522	54	22,947,920	20,026,701	20,262,965	15,825,107	49
—	105,351	125,090	336	116,843,834	101,131,495	96,354,098	71,631,098	50
1	24	186	192	956,737	825,235	656,073	642,082	51
441	588	4,979	4,833	16,910,494	13,464,345	11,560,791	8,715,152	52
662,421	367,697	1,170,385	856,453	4,362,340	3,696,434	3,743,696	4,256,311	53
4,060,400	4,856,250	5,962,766	4,464,487	185,963,372	163,343,069	147,084,538	114,157,376	54

14.—Principal Imports into Canada for Consumption from All Countries,

No.	Item	All Countries			
		1951	1952	1953	1954
VII. Non-metallic Minerals—concluded					
1	Glass and manufactures of..... \$	31,768,775	27,049,456	37,423,611	33,955,936
2	Graphite and its products..... \$	788,533	745,737	824,788	759,725
3	Mica and manufactures of..... \$	976,467	728,889	719,544	453,205
Petroleum, Asphalt and Products—					
4	Petroleum, crude..... M gal.	2,948,512	2,896,508	2,857,130	2,761,128
	\$	233,363,537	210,265,558	213,286,105	213,007,282
5	Fuel oil for ships' stores..... gal.	14,258,112	15,598,798	18,796,458	8,241,704
	\$	679,982	692,812	940,737	374,021
6	Coal oil and kerosene..... gal.	18,971,434	33,814,292	26,708,398	18,891,972
	\$	2,321,563	4,013,338	3,256,297	2,110,799
7	Gasoline..... gal.	202,565,570	250,206,488	291,608,276	142,251,352
	\$	33,395,830	39,123,900	48,622,821	34,541,363
8	Lubricating oils..... gal.	28,898,979	31,301,602	34,947,510	34,570,557
	\$	9,946,077	9,068,545	9,046,270	8,903,506
9	Other petroleum and asphalt products..... \$	74,186,674	78,798,296	82,897,096	86,050,419
	Totals, Petroleum, Asphalt and Products... \$	353,893,663	341,962,449	358,049,326	344,987,390
10	Stone and its products..... \$	33,965,946	36,147,439	35,642,188	32,822,653
11	Other non-metallic minerals..... \$	25,941,420	26,165,595	28,723,596	27,316,464
	Totals, Non-metallic Minerals..... \$	684,535,336	641,884,695	658,475,580	599,216,011
VIII. Chemicals and Allied Products					
12	Acids..... \$	7,541,211	5,938,509	6,991,334	6,006,969
13	Alcohols, industrial..... \$	1,227,877	1,109,316	1,403,722	1,632,285
14	Cellulose products..... \$	7,226,520	2,555,137	1,067,162	1,185,062
15	Drugs, medicinal and pharmaceutical products... \$	22,427,117	21,780,213	22,417,251	24,980,747
16	Dyeing and tanning materials..... \$	13,759,164	10,023,151	11,167,457	10,369,949
17	Explosives..... \$	1,652,679	2,247,146	1,997,394	2,284,557
18	Fertilizers..... cwt.	8,223,278	9,273,758	10,062,743	7,531,428
	\$	10,234,838	10,465,092	11,989,622	11,900,069
19	Paints, pigments and varnishes..... \$	20,861,237	17,213,669	21,199,445	20,120,183
20	Perfumery, cosmetics and toilet preparations... \$	646,619	904,186	1,445,102	1,610,569
21	Soap, common laundry..... lb.	2,232,190	1,870,190	1,229,484	1,120,110
	\$	316,397	224,947	149,055	142,988
22	Soap, other..... \$	571,216	575,955	796,262	1,016,699
Inorganic Chemicals, <i>n.o.p.</i> —					
23	Alum and compounds of aluminum and iron... cwt.	213,747	233,455	332,444	381,963
	\$	535,929	535,363	700,991	802,251
24	Ammonia and its compounds..... lb.	15,768,181	26,226,535	24,992,787	62,966,098
	\$	647,273	1,042,442	1,060,625	2,707,971
25	Compounds of antimony, arsenic, copper, tin lb.	2,914,051	9,508,205	6,862,779	5,271,163
	and zinc..... \$	293,347	1,084,824	669,003	380,281
26	Potash and potassium compounds, <i>n.o.p.</i> lb.	9,504,604	7,864,429	8,834,097	9,723,407
	\$	1,028,463	783,239	829,179	872,665
27	Soda and sodium compounds, <i>n.o.p.</i> lb.	365,832,915	316,686,013	562,601,076	607,683,931
	\$	11,497,777	9,443,862	14,009,916	14,281,484
28	Other inorganic chemicals..... \$	12,790,185	12,826,243	14,501,858	15,935,522
	Totals, Inorganic Chemicals, <i>n.o.p.</i> \$	26,792,974	25,715,973	31,771,572	34,980,174
29	Other chemicals and allied products..... \$	78,555,098	88,959,783	109,438,867	104,175,768
	Totals, Chemicals and Allied Products.... \$	191,812,947	187,713,077	221,834,245	220,406,019
IX. Miscellaneous Products					
30	Amusement and sporting goods, <i>n.o.p.</i> \$	15,881,079	17,642,564	23,068,781	23,538,172
31	Brushes..... \$	1,280,870	1,135,464	1,397,950	1,494,902
32	Containers, <i>n.o.p.</i> \$	7,628,265	7,672,780	8,787,495	8,777,640
33	Household and personal equipment..... \$	44,908,354	60,340,934	76,044,533	60,190,253
34	Mineral and aerated waters..... \$	103,049	138,710	169,715	219,783
35	Musical instruments..... \$	4,738,636	4,986,268	6,878,997	7,015,565
36	Scientific and educational equipment..... \$	27,010,665	26,434,209	29,722,893	32,618,580
37	Ships and vessels..... \$	2,729,617	3,620,012	1,682,265	2,437,229
38	Vehicles (except iron)..... \$	44,454,932	101,552,426	120,645,098	107,882,451
39	Works of art..... \$	3,262,143	2,527,969	2,552,288	3,306,327
40	Miscellaneous imports under special conditions... \$	81,969,796	121,655,529	126,998,752	127,745,058
41	Other miscellaneous commodities..... \$	62,670,859	80,935,009	83,783,980	93,640,371
	Totals, Miscellaneous Products..... \$	296,638,265	428,641,854	481,732,747	468,866,331
	Grand Totals, Imports for Consumption \$	4,084,556,478	4,030,467,653	4,382,830,430	4,093,196,338

the United Kingdom and the United States 1951-54—concluded

United Kingdom				United States				No.
1951	1952	1953	1954	1951	1952	1953	1954	
6,321,195	3,776,478	5,184,940	4,998,747	20,449,504	19,640,089	26,433,572	23,222,208	1
102,867	135,678	141,609	119,993	608,711	535,721	580,806	604,500	2
32,487	20,342	16,021	14,417	544,948	438,697	472,004	395,122	3
—	—	—	—	760,522	711,995	510,315	321,085	4
—	—	—	—	59,811,632	54,635,919	40,702,895	28,333,848	5
—	—	—	—	14,258,112	15,598,798	18,796,458	8,013,207	6
—	—	—	—	679,982	692,812	940,737	358,729	7
226	—	281	—	15,631,880	27,970,000	24,729,735	16,669,286	8
556	—	84	—	1,952,184	3,242,686	3,018,590	1,849,327	9
—	—	—	—	182,253,536	210,402,995	272,159,401	142,083,417	10
—	—	—	—	30,271,192	32,777,759	45,429,430	24,896,958	11
26,570	32,499	86,264	46,402	28,822,084	31,211,612	34,808,089	34,468,883	12
21,181	48,606	73,133	33,807	9,877,788	8,966,675	8,929,061	8,820,513	13
10,662	30,414	44,824	51,999	55,433,578	64,313,862	66,756,257	64,119,050	14
32,399	79,020	118,041	85,806	158,026,356	164,629,713	165,776,970	128,378,425	15
3,472,013	3,200,523	2,781,952	2,985,935	24,398,739	26,009,135	27,410,908	24,986,223	16
1,274,082	1,224,661	1,401,801	1,429,509	18,738,703	19,577,962	20,465,388	19,306,747	17
32,864,010	27,318,207	30,154,422	28,489,801	435,855,952	419,452,917	415,704,355	334,612,840	18
1,361,730	635,840	628,228	674,171	5,473,182	4,960,413	5,718,956	4,695,301	19
1,672	—	4,903	123	1,216,530	1,100,333	1,388,040	1,629,676	20
912,857	162,921	—	—	6,094,769	2,276,155	1,067,162	1,185,062	21
1,681,080	1,781,054	1,790,454	2,218,480	19,619,856	18,605,060	19,133,069	21,173,284	22
1,853,528	1,308,467	1,380,019	1,373,066	8,380,411	6,150,837	6,518,012	5,873,363	23
88,266	103,950	126,841	191,478	1,464,984	2,036,834	1,729,141	1,967,433	24
8,783	7,504	15,641	10,603	7,537,072	8,041,436	8,427,446	6,206,288	25
18,561	25,263	45,569	35,301	9,002,585	8,676,074	9,521,716	10,153,631	26
2,922,200	2,251,514	4,169,062	4,687,112	17,703,783	14,868,688	16,881,337	15,255,006	27
67,106	54,764	97,077	97,427	406,153	650,760	1,074,173	1,173,933	28
21,320	864	13,708	20,160	2,209,770	1,869,326	1,208,044	1,055,649	29
2,700	130	1,273	1,988	313,433	224,817	147,040	135,557	30
110,648	77,241	103,750	101,517	433,011	473,908	661,887	878,832	31
154,558	90,857	148,749	201,743	58,529	140,130	178,201	176,970	32
260,699	171,250	263,677	343,082	272,730	357,970	425,928	452,891	33
2,021,396	872,627	1,154,767	1,115,779	13,701,523	25,329,015	23,679,906	61,340,599	34
109,556	49,858	67,689	75,384	531,885	990,265	977,845	2,599,350	35
628,220	810,994	3,599,514	3,922,169	1,544,895	4,171,065	3,258,855	905,543	36
56,013	53,552	279,499	265,285	174,519	401,077	387,204	102,181	37
1,068,416	662,513	605,308	238,790	7,301,965	128,876	6,160,227	6,943,264	38
175,420	128,876	114,868	63,697	698,416	524,944	521,051	572,017	39
134,301,269	32,929,312	139,468,421	134,109,401	226,754,416	279,888,987	415,433,985	464,106,213	40
2,992,526	1,538,742	3,089,850	2,857,870	7,971,541	7,429,119	10,125,793	10,655,917	41
351,132	268,107	267,333	448,067	12,238,955	12,481,946	14,078,112	15,259,506	42
3,945,346	2,210,385	4,082,916	4,053,385	21,888,046	22,185,321	26,515,933	29,641,862	43
3,222,445	3,613,485	6,120,558	5,156,398	73,064,114	84,039,628	101,455,763	96,725,916	44
16,188,139	12,225,014	18,550,650	18,590,446	165,060,857	166,248,828	191,812,229	190,488,856	45
2,700,209	2,857,753	3,441,819	2,988,171	11,146,526	12,716,955	16,319,621	16,433,300	46
613,471	340,385	375,606	500,901	587,742	717,152	867,053	804,785	47
2,574,429	2,580,607	2,975,859	2,613,648	3,086,074	3,256,762	3,475,879	3,810,655	48
3,436,383	2,678,858	3,355,898	2,812,879	39,435,901	55,586,357	69,259,210	53,270,337	49
3,233	6,196	5,056	2,128	18,837	19,123	10,235	35,640	50
516,043	643,220	820,672	911,823	3,263,130	3,194,431	4,661,308	4,837,619	51
1,336,808	2,081,476	1,786,202	1,512,123	23,370,006	21,731,337	24,540,956	27,125,104	52
268,844	283,055	516,050	176,179	2,101,916	3,265,887	860,019	2,120,343	53
3,078,854	4,489,922	7,701,318	5,031,657	41,067,444	96,832,517	112,711,249	102,693,567	54
1,030,126	992,178	782,482	693,421	838,508	731,507	944,207	1,682,921	55
3,010,066	6,011,930	3,975,837	7,631,020	77,456,279	113,993,599	120,139,975	113,204,474	56
6,656,832	6,837,078	7,142,235	8,341,680	41,375,215	59,361,783	59,361,783	69,710,705	57
25,225,298	29,802,658	32,879,034	33,215,630	243,748,078	371,190,834	413,151,495	395,728,823	58
420,984,515	359,757,123	453,391,388	392,471,571	2,812,927,298	2,976,962,332	3,221,214,416	2,961,379,507	59

15.—Principal Exports of Canadian Produce from Canada to All Countries.

No.	Item	All Countries			
		1951	1952	1953	1954
I. Agricultural and Vegetable Products					
A. MAINLY FOOD					
Fruits—					
1	Fruits, fresh..... \$	12,690,751	12,738,033	12,609,893	13,279,084
2	Fruits, dried..... lb.	35,864	125,152	3,223	7,867
	\$	7,905	3,251	701	1,524
3	Fruits, canned or preserved..... lb.	3,413,137	3,146,997	3,681,853	5,719,474
	\$	574,189	554,101	634,214	924,200
4	Fruit juices and fruit syrups..... gal.	219,201	212,153	121,404	137,805
	\$	220,851	252,926	165,765	244,574
	Totals, Fruits..... \$	13,493,696	13,548,311	13,410,573	14,449,382
5	Nuts..... \$	20,668	9,547	9,884	15,148
Vegetables—					
6	Vegetables, fresh..... \$	6,658,029	6,036,661	5,852,023	4,613,116
7	Vegetables, dried..... lb.	494	614	923	29
	\$	449	517	688	25
8	Vegetables, canned..... lb.	33,762,337	10,987,663	9,398,503	11,483,372
	\$	3,706,456	1,364,468	1,104,572	1,364,284
9	Pickles, sauces and catsups..... \$	185,185	89,118	61,215	125,276
	Totals, Vegetables..... \$	10,550,119	7,490,764	7,018,498	6,102,701
Grains and Farinaceous Products—					
10	Wheat..... bu.	237,060,505	336,023,883	290,073,264	208,262,422
	\$	441,042,753	621,292,402	567,906,882	375,338,552
11	Flour of wheat..... bbl.	12,078,671	13,246,269	11,144,214	10,074,061
	\$	113,854,397	116,054,531	102,160,443	88,029,251
12	Prepared foods and bakery products..... \$	1,230,371	907,759	1,316,589	1,692,086
13	Other farinaceous products..... \$	154,064,803	260,639,226	242,902,343	153,479,924
	Totals, Grains and Farinaceous Products.... \$	710,192,324	998,893,918	914,286,257	618,539,813
14	Oils, vegetable, for food..... cwt.	768	816	219	954
	\$	22,988	20,121	4,617	25,795
Sugar and Its Products—					
15	Confectionery, including candy..... \$	234,762	196,410	335,776	379,741
16	Maple sugar..... lb.	5,825,723	8,635,730	8,805,982	6,243,283
	\$	2,435,438	3,320,180	3,748,775	3,920,157
17	Other sugar and products..... \$	1,833,729	2,369,131	2,046,675	2,077,779
	Totals, Sugar and Its Products..... \$	4,503,929	5,885,721	6,131,226	6,377,677
18	Cocoa and chocolate..... \$	294,604	24,436	9,484	35,766
19	Coffee and chicory..... \$	93,228	33,551	1,456,975	1,458,939
20	Spices..... \$	12,191	9,429	8,480	8,573
21	Tea..... \$	132,377	185,659	243,343	309,215
22	Other vegetable products..... \$	972,084	1,005,974	875,451	617,421
	TOTALS, A. MAINLY FOOD..... \$	740,288,208	1,027,107,431	943,454,788	647,940,430
B. OTHER THAN FOOD					
Beverages, Alcoholic—					
23	Ale, beer and porter..... gal.	2,023,974	1,805,010	2,183,358	2,352,547
	\$	2,222,475	2,134,700	2,897,269	3,281,971
24	Whisky and other distilled beverages..... pf. gal.	6,198,627	6,345,247	7,376,492	6,824,768
	\$	54,236,588	54,457,453	63,317,067	59,346,704
25	Wines..... gal.	2,154	3,051	2,770	3,918
	\$	3,681	5,258	4,810	9,779
	Totals, Beverages, Alcoholic..... \$	56,462,744	56,597,411	66,219,146	62,638,454
26	Gums and resins..... \$	72,073	71,107	51,481	70,499
27	Oil cake and oil cake meal..... cwt.	1,122,000	1,077,694	2,191,328	1,888,941
	\$	3,916,418	4,822,439	8,221,621	7,745,793
28	Oils, vegetable, not food..... \$	3,625,867	4,033,372	4,774,902	2,518,179
29	Plants, shrubs, trees and vines..... \$	120,542	124,624	170,460	159,831
30	Rubber and manufactures of..... \$	29,067,215	17,690,727	8,334,309	11,136,203

the United Kingdom and the United States 1951-54

United Kingdom				United States				No.
1951	1952	1953	1954	1951	1952	1953	1954	
1,900,464	1,581,436	—	1,049,877	10,351,424	10,628,969	12,092,447	11,829,611	1
—	—	—	—	31,280	122,987	739	695	2
29,847	26,918	16,690	1,435,997	6,347	2,750	169	162	3
12,123	6,867	4,864	176,738	2,927,905	2,667,573	3,270,948	3,695,205	4
—	—	—	—	466,975	464,750	558,762	634,599	
—	—	—	—	167,520	100,856	40,704	67,085	
—	—	—	—	148,587	99,321	55,866	136,434	
1,912,587	1,588,303	4,864	1,226,615	10,973,333	11,195,790	12,707,244	12,600,806	
—	—	—	—	577	508	15	—	5
—	—	—	—	4,981,505	5,286,176	4,563,689	3,464,939	6
—	—	25	—	27	302	600	—	7
—	—	25	—	26	273	454	25	
8,357,948	5,984,765	6,099,957	5,117,181	20,994,355	497,981	241,636	1,677,048	8
872,103	638,967	639,166	553,885	2,190,798	60,528	20,171	167,839	
19,106	13,712	14,468	14,629	26,462	3,032	12,135	86,463	9
891,209	652,679	653,659	568,514	7,198,791	5,350,009	4,596,449	3,719,266	
85,742,135	103,529,484	103,641,307	73,670,413	37,916,746	44,082,487	12,924,462	6,858,979	10
159,179,214	189,575,022	206,390,806	132,989,690	65,036,229	72,533,242	23,693,726	12,002,982	
4,762,478	4,870,147	3,883,279	3,723,753	200,188	15,268	52,271	98,159	11
43,005,246	39,265,294	33,359,001	28,677,823	1,586,558	127,235	404,107	714,792	
3,922	2,348	24,372	2,392	813,852	444,407	338,495	477,149	12
8,987,088	2,766,622	40,426,114	37,799,235	88,389,954	119,601,424	126,738,883	80,900,001	13
211,175,470	231,609,286	280,200,293	199,469,140	155,826,593	192,706,308	151,175,211	94,094,924	
—	—	—	—	376	39	19	40	14
—	—	—	—	10,559	673	250	736	
30,733	21,451	51,471	22,888	43,292	42,577	123,500	139,906	15
—	—	1,875	—	5,824,539	8,633,823	8,795,360	6,700,807	16
—	—	687	—	2,434,882	3,310,385	3,743,788	3,897,852	
—	—	577	120	1,717,675	1,878,719	1,883,454	2,024,135	17
30,733	21,451	52,735	23,008	4,195,849	5,240,681	5,750,832	6,061,893	
—	—	4,235	—	10,086	20,941	2,692	1,680	18
—	—	—	304,568	75,969	967	1,438,463	1,085,917	19
—	—	—	—	2,676	1,190	291	2,554	20
—	—	—	—	127,947	182,488	241,561	306,894	21
5,712	10,531	5,136	8,372	278,121	218,785	204,441	157,182	22
214,015,711	233,882,250	280,920,922	201,600,217	178,700,501	214,918,340	176,117,449	118,031,852	
—	—	—	—	1,776,864	1,620,120	2,050,932	2,164,156	23
—	—	—	—	1,951,738	1,923,866	2,746,680	3,059,593	
102,764	129,456	174,715	78,969	4,891,567	4,968,425	5,975,851	5,886,371	24
639,527	782,359	918,552	376,998	44,207,395	44,276,091	53,222,482	52,584,224	
—	—	—	—	2	20	17	106	25
—	—	—	—	52	96	57	5,191	
639,527	782,359	918,552	376,998	46,159,185	46,200,053	55,969,219	55,649,008	
43,504	21,272	15,922	32,625	15,400	37,586	24,081	21,835	26
228,480	—	1,442,549	1,427,759	576,547	964,528	607,273	409,410	27
861,079	—	5,268,567	2,938,278	1,860,357	4,303,649	2,431,779	1,577,208	
—	460,456	2,935,916	494,910	493,884	394,083	520,021	452,394	28
14,624	13,156	10,880	19,398	104,156	110,219	158,372	135,590	29
1,884,770	414,793	203,694	168,553	6,646,934	5,521,065	4,497,897	5,333,545	30

15.—Principal Exports of Canadian Produce from Canada to All Countries,

No.	Item	All Countries			
		1951	1952	1953	1954
I. Agricultural and Vegetable Products					
—concluded					
B. OTHER THAN FOOD—concluded					
1	Seed potatoes..... bu.	3,837,545	2,256,189	3,390,868	2,574,205
	\$	4,086,204	6,364,126	6,612,655	3,453,748
2	Seed, <i>n.o.p.</i> \$	23,829,089	26,780,975	24,179,567	28,240,071
3	Tobacco, unmanufactured..... lb.	29,180,473	38,315,173	28,389,217	31,770,246
	\$	16,413,373	22,221,125	15,682,664	18,086,384
4	Tobacco, manufactured..... \$	206,746	389,151	444,675	516,259
5	Other vegetable products, not food..... \$	16,121,251	17,293,930	18,616,706	20,974,986
	TOTALS, B. OTHER THAN FOOD..... \$	153,921,522	156,388,987	153,308,186	155,540,407
	Totals, Agricultural and Vegetable Products..... \$	894,209,730	1,183,496,418	1,096,762,974	803,480,837
II. Animals, Fishery, and Animal Products					
Animals, Living—					
6	Cattle, swine, sheep and poultry, pure bred for improvement of stock..... \$	8,345,138	1,157,852	6,136,434	4,800,842
7	Cattle, <i>n.o.p.</i> No.	219,563	12,537	49,155	72,578
	\$	55,027,616	3,139,181	9,150,680	12,017,811
8	Horses..... No.	11,072	6,996	12,563	17,775
	\$	557,329	358,167	615,697	911,870
9	Other animals, living..... \$	1,348,166	1,163,968	1,352,769	1,524,676
	Totals, Animals, Living..... \$	65,278,249	5,819,168	17,255,580	19,255,199
10	Bones, horns, etc..... \$	367,154	122,027	320,520	273,427
Fishery Products, <i>n.o.p.</i> —					
11	Fish, fresh or frozen..... cwt.	2,815,073	3,083,326	2,990,198	3,232,720
	\$	66,274,959	67,924,242	66,632,848	71,952,322
12	Fish, salted, dried, pickled and smoked..... cwt.	2,100,536	1,844,168	1,633,654	1,705,045
	\$	27,607,811	25,543,823	22,273,695	23,345,182
13	Fish, canned or preserved, <i>n.o.p.</i> cwt.	478,504	490,173	598,154	661,048
	\$	16,192,679	13,986,347	18,373,822	27,834,878
14	Other fishery products, <i>n.o.p.</i> \$	7,388,996	5,870,355	3,853,912	6,757,584
	Totals, Fishery Products, <i>n.o.p.</i> \$	117,464,445	113,324,767	111,134,277	129,889,966
15	Furs and manufactures of..... \$	29,864,201	24,405,531	22,340,616	24,312,674
16	Hair and bristles and manufactures of..... \$	2,424,048	1,312,381	1,192,960	833,203
17	Hides and skins, raw (except fur skins)..... No.	1,609,314	1,631,268	2,035,233	2,299,400
	\$	13,791,138	5,534,442	7,568,957	8,928,480
18	Leather, unmanufactured..... \$	7,014,585	4,455,148	6,790,639	7,026,376
19	Leather, manufactured..... \$	2,151,633	2,177,394	2,725,791	2,610,705
20	Bacon and hams, shoulders and sides..... cwt.	61,325	35,393	70,274	80,777
	\$	3,649,744	2,502,016	5,508,128	6,348,698
21	Other meats and preparations of..... \$	68,812,411	46,061,361	46,521,396	46,398,882
Milk and Its Products—					
22	Butter..... cwt.	5,437	8,656	1,907	1,429
	\$	387,404	568,833	125,798	90,880
23	Cheese..... cwt.	306,532	20,949	164,294	50,060
	\$	10,231,725	879,546	4,518,175	1,544,281
24	Milk, processed..... cwt.	410,406	686,782	573,847	330,742
	\$	9,011,843	13,237,392	10,621,890	7,621,156
25	Other milk products..... \$	1,867,632	1,004,519	934,396	1,367,520
	Totals, Milk and Its Products..... \$	21,498,604	15,690,290	16,200,259	10,623,837
26	Oils, fats, greases and waxes..... \$	6,522,462	5,256,159	3,622,438	3,853,015
27	Other animal products..... \$	9,194,796	11,280,843	9,737,419	9,506,866
	Totals, Animals, Fishery, and Animal Products..... \$	348,033,470	237,941,527	250,918,980	269,861,328

the United Kingdom and the United States 1951-54—continued

United Kingdom				United States				No.
1951	1952	1953	1954	1951	1952	1953	1954	
—	—	—	—	3,061,810	1,284,301	2,053,313	1,714,443	1
320,124	2,165,008	1,876,852	3,722,552	3,003,288	3,486,728	3,751,632	1,900,778	2
23,223,062	31,927,373	23,282,564	23,130,478	11,734,055	10,233,359	10,683,664	10,847,188	3
13,491,539	18,601,170	12,905,136	14,578,957	135	10	82	137	4
308	55,538	102,905	83,183	113	12	128	122	5
313,785	62,383	143,112	230,294	43,890	34,437	34,111	38,758	
				14,680,791	16,067,331	17,109,232	19,336,427	
17,569,063	22,576,135	24,381,536	25,640,748	84,742,059	86,388,522	95,180,136	95,292,853	
231,584,774	256,458,385	305,302,458	227,240,965	263,442,560	301,306,862	271,297,585	213,324,705	
250	—	—	500	7,975,275	920,439	5,720,041	4,116,013	6
—	—	—	—	218,607	11,763	47,877	71,191	7
—	—	—	—	54,873,719	3,060,420	9,017,031	11,902,722	8
—	—	—	—	10,964	6,927	12,422	17,701	9
2,726	11,974	20,094	17,527	544,408	349,570	576,972	903,615	
				1,300,593	1,068,144	1,254,652	1,431,219	
2,976	11,974	20,094	18,027	64,693,995	5,399,573	16,568,696	18,353,569	
15,400	—	—	—	351,502	121,845	278,621	198,622	10
—	—	—	—	2,804,321	3,064,849	2,964,578	3,198,340	11
—	—	—	—	65,969,421	67,446,622	65,979,634	71,137,164	12
—	—	—	—	476,334	467,300	392,791	349,081	13
169,643	14,782	128,945	241,340	6,700,901	6,669,971	5,497,486	5,350,955	14
7,043,534	761,539	4,646,857	11,348,500	32,573	143,363	152,538	157,234	
128,290	1,850	43,056	157,584	2,126,404	5,513,058	6,072,136	5,317,849	
				7,066,840	5,655,509	3,562,586	6,061,319	
7,171,824	763,389	4,689,913	11,506,084	81,863,566	85,285,160	81,111,842	87,867,287	
7,325,579	4,052,900	3,896,948	4,191,210	21,834,659	19,742,138	17,808,914	19,578,377	15
1,018,317	492,342	429,952	358,121	1,291,866	700,697	632,164	389,135	16
188,062	84,388	131,464	251,202	1,354,170	1,460,490	1,575,373	1,348,527	17
1,291,814	214,937	452,902	1,211,527	11,820,419	4,702,112	4,642,635	3,262,199	18
1,254,006	1,191,049	1,725,696	1,729,142	3,819,979	2,213,447	3,166,598	3,137,434	19
117,711	54,770	113,107	56,920	1,606,386	1,788,558	2,249,222	2,098,873	20
18,915	—	—	—	34,997	25,595	60,970	70,133	21
629,559	—	—	—	2,567,150	1,978,978	4,951,312	5,639,660	22
447,349	28,244,712	2,640,169	1,298,553	63,900,286	13,138,843	38,186,379	34,201,653	23
—	—	—	6	1,465	2,234	220	—	24
—	—	—	425	112,706	174,226	17,158	—	25
271,517	1,483	148,051	40,145	27,257	15,462	10,716	5,341	26
8,718,302	47,641	3,868,688	1,156,462	1,188,436	673,871	450,245	215,697	27
54,639	—	—	—	3,366	130,835	21,406	9,269	
712,552	—	—	72,056	44,451	1,640,021	252,037	85,629	
				493,864	156,309	491,685	794,659	
9,430,854	47,641	3,868,688	1,228,943	1,839,457	2,644,427	1,211,125	1,095,985	
939,462	322,302	175,948	53,863	2,759,893	2,344,298	1,550,146	1,542,138	
215,112	552,279	567,318	221,678	7,178,538	7,905,889	7,014,549	6,356,369	
29,859,963	35,948,295	18,580,735	21,874,068	265,527,696	147,965,965	179,372,203	183,721,301	

15.—Principal Exports of Canadian Produce from Canada to All Countries,

No.	Item	All Countries			
		1951	1952	1953	1954
III. Fibres and Textiles					
1	Cotton and manufactures of..... \$	10,960,752	7,041,833	3,374,395	2,220,649
2	Flax, hemp, jute and manufactures of..... \$	1,234,434	1,386,542	564,914	910,488
3	Silk and manufactures of..... \$	763	1,385	6,201	6,355
4	Wool, raw (includes noils and tops)..... lb.	2,326,790	3,170,992	3,436,268	2,708,950
		2,201,134	1,937,985	1,899,138	1,488,774
5	Other wool and manufactures of..... \$	5,295,801	2,525,060	3,870,420	3,720,390
6	Synthetic fibre and manufactures of..... \$	4,267,695	3,227,236	5,210,303	4,311,430
7	Other textile products..... \$	12,897,765	11,576,770	9,407,842	8,310,992
Totals, Fibres and Textiles..... \$		36,858,344	27,696,811	24,333,213	20,969,078
IV. Wood, Wood Products and Paper					
8	Logs..... M ft.	43,063	52,228	47,621	48,346
		4,707,423	4,796,034	4,394,811	3,860,009
9	Railroad ties..... No.	168,478	899,632	1,494,293	882,603
		480,609	3,345,857	4,497,341	3,338,874
10	Planks and boards..... M ft.	3,435,510	3,328,563	3,369,686	3,832,292
		312,198,092	295,948,736	282,736,266	324,724,278
11	Timber, square..... M ft.	3,868	11,095	11,909	15,940
		424,919	1,256,318	1,012,840	1,302,463
12	Shingles..... squares	2,588,360	2,112,826	2,071,338	2,305,537
		27,482,820	20,002,127	20,913,175	24,181,626
13	Pulpwood..... \$	68,102,942	64,819,755	45,859,364	45,765,682
14	Spoolwood..... M ft.	12,017	16,999	8,257	7,138
		1,604,071	2,748,213	1,233,697	1,056,343
15	Wood pulp..... cwt.	44,866,161	38,811,599	39,003,018	43,608,321
		365,132,884	291,863,498	248,674,880	271,418,005
16	Pulp board, wall board and paper board..... cwt.	2,281,317	1,837,327	1,413,368	1,183,063
		14,062,016	11,252,536	7,017,949	6,230,751
17	Book paper..... cwt.	548,769	575,442	568,027	534,776
		5,283,533	5,343,040	4,872,808	4,540,362
18	Newsprint..... cwt.	102,241,224	106,548,605	107,505,019	110,430,601
		536,372,498	591,790,209	619,033,394	635,669,692
19	Wrapping paper..... cwt.	333,011	278,707	223,271	256,599
		3,728,972	3,177,136	1,875,276	2,333,776
20	Newsprint, mutilated, or beater stock, and waste paper..... cwt.	1,423,477	972,320	855,795	809,267
		6,278,987	2,887,880	1,774,980	1,949,553
21	Other wood products and paper..... \$	53,216,365	67,555,704	51,499,079	51,982,962
Totals, Wood, Wood Products and Paper. \$		1,399,076,131	1,366,787,043	1,295,395,860	1,378,354,376
V. Iron and Its Products					
22	Iron ore..... ton	3,225,767	3,846,998	4,819,975	6,126,938
		18,596,137	22,333,472	30,842,991	39,718,740
23	Ferro-alloys..... ton	190,454	159,095	90,010	54,497
		31,347,284	30,379,519	17,206,690	6,648,102
24	Pigs, ingots, blooms and billets..... ton	262,673	432,314	472,427	207,949
		14,433,432	25,031,837	29,507,976	11,212,377
25	Scrap iron or steel..... ton	39,804	87,788	410,009	559,271
		1,615,678	4,187,183	15,877,155	15,868,467
26	Castings and forgings..... cwt.	504,868	483,667	429,689	308,931
		6,291,097	6,173,570	5,899,407	3,831,009
27	Rolling mill products..... ton	45,739	72,707	115,920	35,926
		11,805,614	18,844,126	16,863,034	5,392,665
28	Tubes, pipes and fittings..... \$	1,978,360	2,250,818	1,440,713	587,346
29	Wire..... \$	764,006	752,936	762,458	314,006
30	Chains..... \$	298,991	217,017	41,238	30,777
31	Engines, boilers and parts..... \$	9,844,185	10,222,284	13,456,969	23,646,702
32	Farm implements and machinery..... \$	106,438,161	105,408,256	74,316,318	76,771,434
33	Hardware and cutlery..... \$	5,160,128	3,600,951	2,349,805	2,231,075
34	Machinery (except agricultural)..... \$	40,270,782	47,377,520	37,281,996	36,676,440
35	Stamped and coated products..... \$	1,007,879	203,040	303,660	412,823
36	Tools..... \$	1,255,073	1,396,834	1,189,721	1,445,459
VI. Vehicles and Parts					
37	Automobiles, freight..... No.	23,308	38,268	17,245	3,672
		24,872,620	48,831,551	22,257,887	4,005,706
38	Automobiles, passenger..... No.	37,181	41,666	27,977	7,321
		38,490,266	43,634,467	36,061,152	7,722,661
39	Automobile parts..... \$	15,763,431	18,548,647	16,999,484	15,374,579
40	Vehicles <i>n.o.p.</i> \$	3,136,382	4,059,250	5,605,633	4,373,585
Totals, Vehicles and Parts..... \$		82,262,699	115,073,915	80,924,156	31,476,531
41	Other iron and steel products..... \$	8,929,197	13,492,761	30,173,765	44,427,784
Totals, Iron and Its Products..... \$		342,298,703	406,946,039	358,438,052	300,691,737

the United Kingdom and the United States 1951-54—continued

United Kingdom				United States				No.
1951	1952	1953	1954	1951	1952	1953	1954	
572,153	223,735	244,215	84,625	1,708,304	1,700,383	1,127,603	515,381	1
87,247	387,036	6,820	46,249	1,054,114	991,885	555,106	792,868	2
—	—	—	—	138	1,238	1,067	5,929	3
271,621	584,364	1,239,457	1,608,338	2,036,751	2,586,628	2,189,998	1,100,612	4
267,127	338,736	644,383	843,241	1,924,194	1,599,249	1,251,621	645,533	5
5,527	1,602	1,411	10,176	3,090,668	2,063,130	2,291,605	2,127,233	6
131,771	16,783	200,077	220,474	2,233,100	1,533,563	1,941,122	566,843	7
201,034	45,295	47,508	144,696	9,577,955	9,552,083	7,721,494	6,066,135	8
1,264,859	1,013,187	1,144,414	1,349,461	19,588,473	17,441,531	14,889,618	10,719,922	
4,932	12,490	5,586	5,563	35,030	32,380	33,028	34,879	9
585,238	1,541,182	646,983	568,715	3,815,306	2,863,469	3,255,453	2,881,719	10
61,345	757,359	1,216,883	548,524	25,415	8,273	123,248	21,770	11
168,520	2,493,517	3,635,195	1,816,102	35,754	10,519	227,077	37,736	12
895,238	850,460	596,173	866,923	2,167,358	2,251,166	2,450,493	2,794,269	13
78,964,272	81,958,339	48,735,951	68,598,269	196,780,626	190,983,006	206,676,735	225,613,732	14
1,001	8,821	4,452	3,017	659	659	1,855	1,919	15
141,464	826,647	405,040	257,555	49,662	49,239	177,632	162,431	16
38,050	18,997	22,632	29,181	2,477,396	2,056,913	2,006,989	2,242,390	17
457,582	178,917	263,788	268,550	26,231,355	19,518,305	20,246,703	23,578,773	18
3,229,904	5,030,867	4,047,559	4,334,710	59,330,714	55,050,639	40,296,940	38,759,540	19
7,085	12,596	4,138	4,249	3,875	4,150	3,644	2,352	20
931,012	2,168,600	662,919	663,851	464,942	533,216	497,657	305,020	21
4,345,017	4,213,695	4,299,021	5,418,918	36,628,212	31,779,570	31,989,816	33,395,631	22
37,770,627	35,208,295	28,099,255	34,486,399	276,760,578	225,082,376	202,247,663	206,435,403	23
285,032	289,097	52,261	192,563	1,623,995	1,355,094	1,304,754	896,425	24
2,406,975	2,628,884	310,533	1,266,958	8,633,986	6,896,202	6,413,057	4,475,412	25
154	513	—	—	430,739	452,976	470,048	452,878	26
1,826	2,692	—	367	3,427,448	3,599,627	3,736,419	3,598,065	27
1,444,094	2,620,101	3,162,152	5,003,690	95,498,938	97,019,236	98,344,316	97,332,982	28
7,488,187	14,575,722	18,237,016	28,639,166	496,852,197	534,372,859	564,464,267	558,633,675	29
76,817	45,366	21,331	39,496	82,528	46,065	94,250	121,231	30
864,501	514,116	179,009	352,936	831,600	381,139	807,756	964,717	31
68,417	56,418	32,354	88,821	1,333,531	915,625	821,919	707,943	32
319,388	179,491	90,270	248,522	5,825,120	2,707,834	1,683,037	1,674,836	33
7,851,267	17,741,178	5,290,486	5,155,201	35,542,151	38,967,581	40,719,702	40,290,407	34
141,180,763	163,045,447	110,604,004	146,657,131	1,114,581,439	1,081,016,011	1,091,450,118	1,107,411,466	
775,832	705,004	1,205,259	1,072,081	2,184,708	2,010,526	2,064,767	3,726,301	35
3,796,025	3,680,527	6,541,794	5,749,364	13,121,180	11,395,824	14,126,702	26,261,974	36
52,057	78,093	97,980	16,037	132,569	75,585	50,725	35,159	37
8,772,649	16,814,031	7,329,303	1,755,723	21,659,692	12,520,008	9,556,261	4,452,079	38
52	108,271	41,241	—	262,215	323,591	408,749	205,185	39
134,160	6,470,946	2,883,313	—	14,267,405	18,490,995	25,475,046	10,795,033	40
—	48,517	194,812	172,357	39,804	27,308	96,251	197,356	41
—	2,419,844	7,925,118	5,275,507	1,615,678	1,206,607	3,491,706	4,583,192	42
—	108	—	95	502,644	479,694	422,798	305,152	43
—	4,700	—	2,409	6,223,703	6,117,305	5,753,307	3,763,444	44
1,158	6,256	374	151	16,518	24,955	90,715	15,692	45
2,831,424	3,867,298	299,361	335,954	2,582,323	3,845,851	10,902,580	2,051,251	46
27,474	245,680	42,988	—	579,210	446,883	253,393	148,763	47
32,658	17,187	8,645	19,629	284,287	391,409	572,211	125,744	48
1,607	—	—	—	279,715	185,702	34,828	11,974	49
678,150	301,261	194,899	297,081	3,085,375	1,659,246	3,064,407	8,279,543	50
571,611	435,477	218,770	184,193	83,495,253	83,724,597	58,116,105	53,295,955	51
1,523,514	893,914	569,881	722,021	676,547	723,978	598,766	312,682	52
987,173	1,193,645	1,132,716	759,021	12,445,398	16,005,212	16,680,602	10,415,088	53
—	30	257	140	77,059	52,615	202,352	333,442	54
53,674	162,678	64,039	15,831	263,294	276,965	311,364	389,749	55
—	—	5	—	—	4	157	124	56
—	—	9,911	—	9,734	234,144	267,918	202,627	57
228	214	37	36	9	41	27	8	58
332,603	311,284	63,786	55,649	16,278	84,114	49,542	17,024	59
26,791	183,531	130,129	229,617	2,793,824	4,323,215	1,517,347	1,228,125	60
7,169	15,934	19,068	20,841	1,751,478	2,356,126	4,412,504	1,754,016	61
366,563	510,749	222,894	306,107	4,571,314	6,997,599	6,247,311	3,201,792	62
637,213	932,997	47,312	91,246	3,950,345	8,660,622	27,484,933	40,158,061	63
19,913,895	37,950,964	27,481,290	15,515,166	169,187,778	172,701,418	182,871,874	168,579,766	

15.—Principal Exports of Canadian Produce from Canada to All Countries,

No.	Item	All Countries			
		1951	1952	1953	1954
VI. Non-ferrous Metals					
1	Aluminum and manufactures of..... \$	124,779,435	162,337,931	177,855,833	184,514,489
2	Brass and manufactures of..... \$	5,660,419	22,872,165	10,859,392	6,171,743
3	Copper and manufactures of..... \$	87,188,071	119,490,527	124,676,914	135,071,429
4	Lead and manufactures of..... \$	45,392,480	49,742,671	37,889,541	40,563,450
5	Nickel..... cwt.	2,623,656	2,840,445	2,902,355	3,174,377
		\$ 136,689,457	\$ 150,981,762	\$ 162,542,304	\$ 182,154,273
6	Precious metals and manufactures of (except gold)..... \$	48,523,961	47,377,657	44,351,543	48,042,017
7	Zinc and manufactures of..... \$	84,450,009	96,703,447	57,698,596	58,469,076
8	Clocks and watches and parts..... \$	1,064,249	1,184,108	735,740	832,605
9	Electrical apparatus <i>n.o.p.</i> \$	17,729,307	33,891,933	37,705,272	22,912,591
10	Printing materials..... \$	39,279	67,531	226,915	242,291
11	Other non-ferrous metals, including alloys <i>n.o.p.</i> \$	18,353,526	22,082,589	27,641,103	30,042,820
	Totals, Non-ferrous Metals..... \$	569,870,193	706,732,321	682,183,153	709,016,784
VII. Non-metallic Minerals					
12	Asbestos and manufactures of..... \$	81,830,822	87,774,683	84,557,404	83,868,863
13	Clay and manufactures of..... \$	2,537,880	2,482,784	1,946,456	2,223,034
Coal and Its Products—					
14	Coal..... ton	435,083	388,960	255,274	219,346
	\$	3,495,664	3,203,522	1,999,908	1,716,435
15	Coke..... ton	219,340	359,456	200,017	154,210
	\$	3,962,267	5,937,349	3,209,246	2,207,547
16	Creosote and coal-tar oils <i>n.o.p.</i> gal.	2,369,760	4,605,408	2,672,411	1,322,804
	\$	858,933	1,327,279	933,957	335,467
17	Other coal products..... \$	71,883	80,412	110,710	97,634
	Totals, Coal and Its Products..... \$	8,388,747	10,548,562	6,253,821	4,357,083
18	Glass and manufactures of..... \$	970,031	521,837	1,982,805	1,368,062
19	Graphite, crude or refined..... cwt.	23,032	33,716	65,053	43,129
	\$	156,536	191,563	320,688	199,612
20	Mica and manufactures of..... \$	484,768	156,859	176,128	56,637
21	Petroleum and products..... \$	2,038,384	8,893,192	6,772,831	8,676,863
22	Stone and its products..... \$	29,097,164	24,201,111	36,600,068	36,047,781
23	Other non-metallic minerals..... \$	6,025,114	8,703,176	8,782,921	8,775,189
	Totals, Non-metallic Minerals..... \$	131,529,446	143,473,767	147,393,122	145,573,124
VIII. Chemicals and Allied Products					
24	Acids..... cwt.	1,871,420	1,033,192	1,147,752	604,681
	\$	5,823,003	2,999,424	1,868,972	1,711,072
25	Alcohols, industrial..... \$	31,341	88,433	19,254	360,112
26	Cellulose products..... \$	1,437,804	513,848	966,258	8,755,858
27	Drugs, medicinal and pharmaceutical preparations..... \$	6,036,553	5,087,949	5,659,105	5,475,727
28	Explosives..... \$	1,249,183	—	—	—
29	Fertilizers..... cwt.	12,452,669	14,914,870	14,235,565	14,182,551
	\$	35,733,727	42,292,804	42,632,854	42,342,394
30	Paints, pigments and varnishes..... \$	7,998,501	3,773,183	3,574,399	3,826,555
31	Perfumery, cosmetics and toilet preparations..... \$	115,196	123,268	74,727	86,931
32	Soap..... lb.	219,421	245,915	236,368	219,265
	\$	44,745	39,203	42,644	43,139
33	Inorganic chemicals <i>n.o.p.</i> \$	13,862,104	12,394,055	11,307,220	10,719,464
34	Other chemicals and allied products..... \$	59,357,872	57,253,097	71,739,782	87,972,030
	Totals, Chemicals and Allied Products... \$	131,689,729	124,565,264	137,885,215	161,293,282
IX. Miscellaneous Commodities					
35	Amusement and sporting goods <i>n.o.p.</i> \$	611,361	555,597	1,100,819	582,108
36	Brushes..... \$	231,870	216,663	265,317	369,741
37	Containers <i>n.o.p.</i> \$	3,188,209	4,688,446	2,855,057	2,185,947
38	Household and personal equipment <i>n.o.p.</i> \$	4,531,937	3,016,805	3,318,583	2,288,442
39	Mineral and aerated waters..... \$	8,081	300	470	320
40	Musical instruments..... \$	697,672	565,894	582,932	603,604
41	Scientific and educational equipment..... \$	5,520,440	5,569,151	5,787,968	5,078,749
42	Ships and vessels and materials for ships..... \$	8,773,962	11,629,593	19,992,175	8,755,257
43	Vehicles (except iron)..... \$	7,928,199	37,783,410	40,388,878	28,691,245
44	Works of art..... \$	66,149	54,033	94,081	61,019
45	Other miscellaneous commodities..... \$	29,336,750	39,361,597	49,709,033	43,414,876
	Totals, Miscellaneous Commodities..... \$	60,894,630	103,441,489	124,095,313	92,031,308
	Grand Totals, Exports..... \$	3,914,460,376	4,301,080,679	4,117,405,882	3,881,271,854

the United Kingdom and the United States 1951-54—concluded

United Kingdom				United States				No.
1951	1952	1953	1954	1951	1952	1953	1954	
57,230,082	90,555,027	65,906,538	75,271,049	40,976,605	44,720,237	90,696,455	76,892,181	1
945,878	1,018,550	63,462	290,571	2,183,592	12,039,921	7,513,446	2,600,949	2
28,588,864	24,793,572	32,273,396	46,846,310	31,116,178	56,468,840	69,702,539	59,445,804	3
12,246,268	8,788,073	10,022,265	10,588,283	24,012,520	35,792,727	22,539,480	24,356,009	4
626,842	619,034	651,848	640,322	1,767,873	1,905,837	1,915,031	2,118,115	5
32,323,665	33,744,999	35,841,974	35,118,056	92,415,560	99,849,500	108,116,943	123,628,706	6
15,488,835	17,524,949	14,845,550	17,638,022	31,965,425	29,433,560	28,653,052	29,367,558	7
27,830,564	36,507,644	10,352,594	16,643,114	45,586,330	52,052,257	45,306,831	38,322,788	8
51,587	36,048	14,574	11,792	125,669	242,733	142,491	133,109	9
195,013	2,563,932	5,994,822	102,994	3,497,388	8,633,971	17,012,152	9,268,942	10
3,368	849	6,854	3,163	34,358	61,063	216,097	234,568	11
6,730,651	7,326,611	4,834,535	6,436,587	6,095,036	10,355,551	18,621,652	19,706,418	12
181,634,775	222,860,254	180,156,564	208,949,941	278,008,661	349,650,360	408,521,138	383,957,032	13
6,371,968	8,009,965	6,088,705	6,575,333	54,800,442	54,182,008	51,451,810	48,729,222	14
2,700	1,008	150	230	1,003,595	1,120,988	1,122,313	1,332,194	15
11,297	—	—	—	292,497	276,225	244,321	207,395	16
108,451	—	—	—	2,158,906	2,024,528	1,880,351	1,583,639	17
11,315	9,448	12,160	11,392	197,661	339,023	247,409	135,144	18
449,329	382,645	525,999	497,181	3,120,931	5,117,173	2,321,852	1,394,280	19
—	—	—	—	2,369,760	4,605,408	2,672,411	1,322,804	20
—	—	—	—	858,933	1,327,279	933,957	335,467	21
—	—	—	—	71,638	80,412	101,789	97,634	22
557,780	382,645	525,999	497,181	6,210,408	8,549,392	5,237,949	3,411,020	23
383	1,288	2,917	831	270,444	183,833	1,737,206	1,049,617	24
—	—	—	—	22,966	33,695	65,017	43,123	25
—	—	—	—	155,769	191,344	320,227	199,535	26
—	—	—	—	435,041	128,151	120,353	35,922	27
907,267	176,700	184	31,706	851,357	8,490,970	6,654,829	6,895,336	28
4,428,128	3,730,335	1,606,237	4,451,591	23,263,608	19,384,793	34,384,112	30,915,953	29
804,332	1,467,745	378,571	714,015	2,935,012	4,408,883	5,980,394	5,844,671	30
13,072,558	13,769,686	8,602,763	12,270,887	89,925,676	96,640,362	107,009,193	98,413,470	31
106,194	29,032	7,043	19,019	1,715,990	988,903	1,131,718	551,132	32
1,182,605	360,790	75,439	191,365	4,032,478	2,430,693	1,693,742	955,479	33
6,969	8,707	—	161,673	18,016	74,770	17,772	21,257	34
43,951	69,449	3,628	59,663	213,430	60,162	592,586	672,064	35
39,082	65,210	26,994	25,804	220,134	572,375	820,228	634,909	36
235,295	—	—	—	36,856	—	—	—	37
—	20	—	20	10,724,633	13,041,573	13,239,669	13,090,427	38
—	55	—	78	30,800,905	37,468,621	39,894,244	39,166,183	39
785,791	387,305	502,682	631,481	3,737,026	2,003,980	2,100,533	1,823,366	40
7,735	71	—	—	10,013	32,522	4,825	5,505	41
—	—	—	—	7,350	3,960	974	20,020	42
—	—	—	—	1,318	906	508	7,343	43
1,174,420	1,590,044	1,874,852	2,229,234	8,336,226	6,994,331	6,997,796	5,993,671	44
6,894,513	7,230,798	6,067,565	12,377,063	19,846,714	25,468,677	32,476,419	36,630,684	45
10,370,451	9,712,429	8,551,160	15,676,361	67,253,116	75,107,037	84,598,653	85,910,461	46
117,145	76,919	64,211	51,959	192,611	284,417	831,375	338,077	47
46	46	—	—	10,701	4,487	74,814	172,979	48
100,101	110,006	21,900	62,640	463,304	466,918	510,507	466,266	49
229,465	135,961	91,096	164,540	250,092	463,684	281,316	239,792	50
—	—	—	—	102	91	470	206	51
—	145	718	663	645,095	500,109	523,693	579,169	52
619,982	535,687	549,828	524,913	2,126,443	2,188,777	2,725,248	1,535,622	53
3,565	7,574	14,549	10,744	656,242	975,273	1,419,845	1,791,106	54
161,670	828,803	1,608,683	674,707	5,943,677	34,071,288	36,617,059	25,285,789	55
—	3,645	4,930	3,050	65,422	47,068	69,369	55,769	56
1,346,941	1,387,960	2,452,706	2,380,706	19,805,506	26,123,280	35,850,705	34,649,979	57
2,578,916	3,086,746	4,808,621	3,873,922	30,159,195	65,125,392	78,904,401	65,114,754	58
631,460,954	745,845,393	665,232,009	653,407,902	2,297,674,594	2,306,954,938	2,418,914,783	2,317,152,877	59

Section 5.—Imports and Exports by Degree of Manufacture, by Origin and by Purpose

Analyses of Canada's trade from the angle of degree of manufacture of imports and exports with leading countries are of value to the student of economic relationships because they present, in summary form, details with significant meaning in the complementary relationship of manufacturing and commerce between geographical areas and countries.

16.—Imports according to Degree of Manufacture by Leading Countries 1953 and 1954

Country	1953			1954		
	Raw Materials	Partly Manufactured	Fully or Chiefly Manufactured	Raw Materials	Partly Manufactured	Fully or Chiefly Manufactured
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
North America¹	434,821	91,552	2,697,874	412,515	85,860	2,470,621
United States.....	434,797	91,546	2,694,872	412,310	85,838	2,463,232
Alaska.....	20	6	2,934	203	22	7,348
Central America and Antilles¹	48,068	22,777	19,065	52,762	20,929	30,095
Barbados.....	—	206	2,169	—	3,197	2,161
Jamaica.....	252	10,123	1,387	3,964	9,837	1,508
Trinidad and Tobago.....	7,133	105	824	8,076	910	609
Costa Rica.....	9,460	—	13	7,745	—	1
Cuba.....	2,206	5,139	4,309	2,047	5,453	2,413
Guatemala.....	3,236	20	3	5,037	14	9
Mexico.....	13,915	333	1,536	11,773	355	1,905
Netherlands Antilles.....	337	—	7,818	274	—	20,308
Panama.....	3,595	17	25	5,806	4	40
South America¹	225,874	7,472	18,985	231,986	10,022	16,118
British Guiana.....	10,794	5,891	1,115	10,685	8,538	1,259
Brazil.....	20,240	772	5,035	27,298	1,205	3,120
Colombia.....	23,153	8	—	24,763	19	38
Ecuador.....	2,661	3	23	3,743	2	18
Venezuela.....	146,275	—	8,872	158,952	—	8,642
Northwestern Europe¹	18,464	53,180	528,773	18,850	45,442	480,374
United Kingdom.....	11,718	44,044	397,629	11,234	38,292	342,946
Belgium and Luxembourg.....	1,312	2,561	25,209	659	2,554	21,864
Denmark.....	249	55	1,870	1,085	62	2,316
France.....	671	1,373	20,224	291	1,299	20,456
Germany, Federal Republic.....	207	1,644	33,656	261	565	43,659
Netherlands.....	3,693	2,705	15,900	4,270	2,210	16,082
Sweden.....	168	531	8,642	219	280	8,676
Switzerland.....	143	2	20,292	101	2	19,048
Southern Europe¹	2,265	2,945	16,171	1,880	3,383	17,599
Italy.....	1,287	1,291	11,693	846	1,449	12,711
Spain.....	739	1,568	2,311	865	1,824	2,877
Eastern Europe	928	269	4,279	910	336	3,481
Middle East¹	26,503	64	4,083	20,358	67	3,271
Lebanon.....	19,576	—	9	17,410	—	3
Other Asia¹	27,547	11,064	49,124	24,574	11,513	55,679
Ceylon.....	1,047	4,003	9,411	745	2,129	9,653
Hong Kong.....	986	57	3,384	721	31	3,402
India.....	3,885	242	22,500	3,457	518	24,079
Malaya and Singapore.....	17,294	3,687	916	15,122	4,234	230
Japan.....	1,794	507	11,329	2,401	955	15,841
Philippines.....	737	2,170	79	619	3,338	44
Other Africa¹	13,891	11,936	2,690	16,881	11,781	2,832
British East Africa.....	3,285	5,520	588	7,029	7,727	1,096
Union of South Africa.....	1,629	1,383	1,604	2,956	1,613	1,342
French Africa.....	2,455	96	81	2,888	98	198
Oceania¹	13,753	16,444	12,028	11,008	16,360	15,711
Australia.....	6,543	9,211	7,711	5,790	8,440	10,427
Fiji.....	—	5,552	2	—	5,777	36
New Zealand.....	7,191	1,296	85	5,203	1,734	377
Hawaii.....	20	385	4,231	15	409	4,868
Totals, Imports	812,056	217,702	3,353,073	791,725	205,694	3,095,778

¹ Includes other countries not specified.

17.—Exports of Canadian Produce according to Degree of Manufacture by Leading Countries 1953 and 1954

Country	1953			1954		
	Raw Materials	Partly Manufactured	Fully or Chiefly Manufactured	Raw Materials	Partly Manufactured	Fully or Chiefly Manufactured
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
North America¹	519,922	827,142	1,074,494	476,313	814,404	1,029,233
United States.....	518,782	826,965	1,073,168	474,886	814,256	1,028,011
Central America and Antilles¹	9,104	9,049	90,830	7,697	10,899	92,880
Barbados.....	440	541	2,753	394	569	3,415
Jamaica.....	841	177	11,472	913	214	10,425
Leeward and Windward Islands.....	158	243	3,463	166	314	3,451
Trinidad and Tobago.....	1,561	417	7,512	1,723	522	9,180
Cuba.....	3,795	1,949	10,380	2,817	1,822	12,816
Dominican Republic.....	157	153	3,683	134	185	3,950
Mexico.....	316	2,748	25,922	146	3,305	23,908
Panama.....	48	25	4,307	64	123	3,870
Puerto Rico.....	779	1,492	5,482	388	2,467	4,902
South America¹	33,474	12,113	93,805	27,880	23,190	75,640
British Guiana.....	601	65	4,111	642	94	3,344
Argentina.....	1,138	1,325	5,178	212	3,453	3,027
Brazil.....	10,596	4,916	22,048	14,089	11,073	19,934
Colombia.....	2,061	2,211	15,874	3,849	3,023	14,128
Ecuador.....	2,600	25	1,595	4,186	42	1,281
Peru.....	8,352	953	5,803	767	1,070	3,249
Venezuela.....	3,066	922	32,497	3,605	2,537	24,831
Northwestern Europe¹	551,054	279,695	161,065	435,545	351,844	170,914
United Kingdom.....	318,220	246,850	100,161	243,644	302,472	107,292
Belgium and Luxembourg.....	46,593	4,918	17,999	39,398	6,226	9,863
France.....	7,322	10,368	14,592	6,991	13,706	13,101
Germany, Federal Republic.....	70,190	7,529	6,139	58,104	14,166	14,629
Ireland.....	10,818	514	2,024	4,355	1,840	2,626
Netherlands.....	33,993	3,531	4,857	24,649	8,744	6,884
Norway.....	33,489	231	3,557	37,200	243	6,369
Switzerland.....	21,945	1,990	5,898	17,937	2,958	5,931
Southern Europe¹	35,308	4,223	17,393	5,932	10,134	19,071
Italy.....	16,954	3,049	13,167	2,172	7,617	14,155
Eastern Europe¹	1,871	496	1,412	7,396	2,906	3,118
U.S.S.R. (Russia).....	—	—	—	1,056	2,205	1,593
Yugoslavia.....	1,369	33	538	6,181	25	913
Middle East¹	17,821	1,294	14,103	9,088	1,682	13,730
Israel.....	6,931	531	1,597	7,181	725	2,268
Turkey.....	10	10	1,435	—	6	7,081
Other Asia¹	143,407	27,462	67,155	78,290	25,920	59,227
India.....	26,855	2,287	8,044	3,145	6,705	7,839
Hong Kong.....	281	871	7,848	564	512	7,176
Pakistan.....	23,791	35	8,276	849	1,052	7,069
Japan.....	83,935	22,298	12,336	73,250	14,157	9,066
Philippines.....	46	200	13,625	27	1,017	14,819
Other Africa¹	14,439	12,056	43,501	11,869	13,438	37,817
Federation of Rhodesia and Nyasaland..	16	1,111	1,093	590	2,206	1,149
Union of South Africa.....	14,032	9,302	27,429	10,349	8,979	20,555
Liberia.....	—	—	3,145	—	—	4,071
Oceania¹	1,391	15,691	36,634	2,263	20,954	41,996
Australia.....	1,042	12,431	26,156	1,891	16,748	27,129
New Zealand.....	12	1,786	5,676	31	3,007	11,769
Totals, Exports.....	1,327,791	1,189,222	1,600,392	1,062,275	1,275,371	1,543,626

¹ Includes other countries not specified.

**18.—Imports according to Origin, by Group and Degree of Manufacture
1953 and 1954**

Origin	1953			1954		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Farm Origin						
CANADIAN FARM PRODUCTS—1						
Field Crops—						
Raw materials.....	459	72,967	81,997	177	91,979	101,534
Partly manufactured.....	18	2,922	4,128	25	3,730	4,975
Fully or chiefly manufactured.....	21,051	32,621	60,870	20,876	36,100	66,278
Totals, Field Crops.....	21,528	108,510	146,995	21,078	131,809	172,787
Animal Husbandry—						
Raw materials.....	2,372	19,591	43,453	2,537	16,852	33,899
Partly manufactured.....	23,159	7,226	34,558	16,186	6,300	26,266
Fully or chiefly manufactured.....	65,109	16,605	100,460	51,338	15,795	86,982
Totals, Animal Husbandry.....	90,640	43,422	178,471	70,061	38,947	147,147
All Canadian Farm Products—						
Raw materials.....	2,831	92,558	125,450	2,714	108,832	135,434
Partly manufactured.....	23,177	10,148	88,685	16,212	10,030	31,241
Fully or chiefly manufactured.....	86,161	49,226	161,331	72,214	51,895	153,260
TOTALS, CANADIAN FARM PRODUCTS.....	112,169	151,932	325,466	91,140	170,757	319,935
FOREIGN FARM PRODUCTS—1						
Field Crops—						
Raw materials.....	1,353	93,068	225,895	2,475	106,709	239,486
Partly manufactured.....	504	13,551	72,194	809	13,867	78,416
Fully or chiefly manufactured.....	30,584	130,858	238,547	28,279	118,358	225,995
Totals, Field Crops.....	32,441	237,477	536,636	31,563	238,934	543,897
Animal Husbandry—						
Raw materials.....	1,269	4,853	6,703	786	6,111	7,333
Partly manufactured.....	1	2	4	—	4	22
Fully or chiefly manufactured.....	424	6,024	8,870	415	5,755	8,724
Totals, Animal Husbandry.....	1,694	10,879	15,577	1,201	11,870	16,079
All Foreign Farm Products—						
Raw materials.....	2,622	97,921	232,598	3,261	112,820	246,819
Partly manufactured.....	505	13,553	72,198	810	13,871	78,438
Fully or chiefly manufactured.....	31,008	136,882	247,418	28,694	124,113	234,719
TOTALS, FOREIGN FARM PRODUCTS.....	34,135	248,356	552,214	32,765	250,804	559,976
ALL FARM PRODUCTS—						
All Field Crops—						
Raw materials.....	1,812	166,035	307,892	2,652	198,688	341,020
Partly manufactured.....	522	16,472	76,322	835	17,597	83,391
Fully or chiefly manufactured.....	51,636	163,479	299,418	49,155	154,458	292,273
Totals, All Field Crops.....	53,970	345,986	683,632	52,642	370,743	716,684
All Animal Husbandry—						
Raw materials.....	3,641	24,444	50,155	3,324	22,964	41,233
Partly manufactured.....	23,160	7,228	34,562	16,187	6,304	26,288
Fully or chiefly manufactured.....	65,533	22,629	109,331	51,752	21,550	95,706
Totals, All Animal Husbandry.....	92,334	54,301	194,048	71,263	50,818	163,227

For footnote, see end of table.

**18.—Imports according to Origin, by Group and Degree of Manufacture
1953 and 1954—concluded**

Origin	1953			1954		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Farm Origin—concl.						
All Farm Products—						
Raw materials.....	5,453	190,479	358,048	5,975	221,652	382,253
Partly manufactured.....	23,682	23,701	110,883	17,021	23,901	109,679
Fully or chiefly manufactured.....	117,168	186,107	408,749	100,908	176,008	387,979
Totals, Farm Origin.....	146,303	400,287	877,680	123,904	421,561	879,911
Wildlife Origin						
Raw materials.....	475	7,826	9,232	489	6,652	8,029
Partly manufactured.....	67	1,467	1,099	66	1,781	1,878
Fully or chiefly manufactured.....	300	755	1,092	249	598	859
Totals, Wildlife Origin.....	842	10,048	12,023	794	9,031	10,766
Marine Origin						
Raw materials.....	71	2,729	3,339	71	2,822	3,987
Partly manufactured.....	—	—	—	—	—	—
Fully or chiefly manufactured.....	325	4,941	8,232	301	4,653	8,359
Totals, Marine Origin.....	396	7,670	11,571	372	7,475	12,346
Forest Origin						
Raw materials.....	1	6,462	6,595	1	6,949	7,128
Partly manufactured.....	55	28,377	31,086	34	29,144	32,136
Fully or chiefly manufactured.....	4,944	114,566	127,271	5,090	116,732	130,650
Totals, Forest Origin.....	5,000	149,405	164,952	5,125	152,825	169,914
Mineral Origin						
Raw materials.....	5,717	227,221	434,764	4,699	174,115	390,208
Partly manufactured.....	19,521	29,493	64,274	20,764	23,927	53,300
Fully or chiefly manufactured.....	228,010	1,814,141	2,140,922	192,109	1,600,348	1,910,120
Totals, Mineral Origin.....	253,248	2,070,855	2,639,960	217,572	1,798,390	2,353,628
Mixed Origin						
Raw materials.....	—	79	79	—	119	119
Partly manufactured.....	719	8,507	9,759	417	7,084	8,701
Fully or chiefly manufactured.....	46,882	574,363	666,807	44,289	564,893	657,811
Totals, Mixed Origin.....	47,601	582,949	676,645	44,706	572,096	666,631
Recapitulation						
Raw materials.....	11,718	434,797	812,056	11,234	412,310	791,724
Partly manufactured.....	44,044	91,546	217,702	38,293	85,838	205,694
Fully or chiefly manufactured.....	397,629	2,694,872	3,353,072	342,945	2,463,232	3,095,778
Grand Totals.....	453,391	3,221,215	4,382,830	392,472	2,961,380	4,093,196

¹ In this classification the expression "Canadian Farm Products" refers to all commodities of which the basic raw materials are such as Canadian farms produce. "Foreign Farm Products" covers materials or commodities such as Canada does not produce in their original forms, e.g., cane sugar, tea, rubber, cotton, silk, etc.

**19.—Exports according to Origin, by Group and Degree of Manufacture
1953 and 1954**

Origin	1953			1954		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Farm Origin						
CANADIAN FARM PRODUCTS—1						
Field Crops—						
Raw materials.....	260,640	186,457	875,281	189,903	129,341	598,860
Partly manufactured.....	7	2,963	7,473	47	2,931	8,377
Fully or chiefly manufactured.....	44,397	74,837	202,779	36,996	73,431	182,399
Totals, Field Crops.....	305,044	264,257	1,085,533	226,946	205,703	789,636
Animal Husbandry—						
Raw materials.....	4,695	47,472	61,072	3,931	46,435	61,113
Partly manufactured.....	1,774	4,822	9,865	1,741	4,631	9,867
Fully or chiefly manufactured.....	4,016	27,543	47,556	1,304	23,945	45,675
Totals, Animal Husbandry.....	10,485	79,837	118,493	6,976	75,011	116,655
All Canadian Farm Products—						
Raw materials.....	265,335	233,929	936,353	193,835	175,776	659,973
Partly manufactured.....	1,781	7,785	17,338	1,787	7,561	18,244
Fully or chiefly manufactured.....	48,413	102,379	250,335	38,300	97,377	228,073
TOTALS, CANADIAN FARM PRODUCTS.....	315,529	344,093	1,204,026	233,922	280,714	906,290
FOREIGN FARM PRODUCTS—1						
Field Crops—						
Raw materials.....	—	6	6	—	72	72
Partly manufactured.....	—	1,222	1,382	18	1,304	1,571
Fully or chiefly manufactured.....	452	13,700	20,188	530	12,137	20,634
Totals, Field Crops.....	452	14,928	21,576	548	13,513	22,277
Animal Husbandry—						
Raw materials.....	—	—	—	—	—	—
Partly manufactured.....	—	—	—	—	—	—
Fully or chiefly manufactured.....	—	1	6	—	6	6
Totals, Animal Husbandry.....	—	1	6	—	6	6
All Foreign Farm Products—						
Raw materials.....	—	6	6	—	72	72
Partly manufactured.....	—	1,222	1,382	18	1,304	1,571
Fully or chiefly manufactured.....	452	13,702	20,194	530	12,142	20,640
TOTALS, FOREIGN FARM PRODUCTS.....	452	14,930	21,582	548	13,518	22,283
ALL FARM PRODUCTS—						
All Field Crops—						
Raw materials.....	260,640	186,463	875,287	189,903	129,413	598,932
Partly manufactured.....	7	4,185	8,855	65	4,235	9,948
Fully or chiefly manufactured.....	44,849	88,537	222,967	37,526	85,567	203,033
Totals, All Field Crops.....	305,496	279,185	1,107,109	227,494	219,215	811,913
All Animal Husbandry—						
Raw materials.....	4,695	47,472	61,072	3,931	46,435	61,113
Partly manufactured.....	1,774	4,822	9,865	1,741	4,631	9,867
Fully or chiefly manufactured.....	4,016	27,544	47,562	1,304	23,951	45,681
Totals, All Animal Husbandry.....	10,485	79,838	118,499	6,976	75,017	116,661

For footnote, see end of table.

**19.—Exports according to Origin, by Group and Degree of Manufacture
1953 and 1954—concluded**

Origin	1953			1954		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Farm Origin—concluded						
All Farm Products—						
Raw materials.....	265,335	233,936	936,359	193,835	175,848	660,045
Partly manufactured.....	1,781	9,007	13,721	1,805	8,866	19,815
Fully or chiefly manufactured.....	48,865	116,080	270,528	38,830	109,518	248,714
Totals, Farm Origin.....	315,981	359,023	1,225,608	234,470	294,232	928,574
Wildlife Origin						
Raw materials.....	3,900	16,784	21,122	4,117	18,704	23,137
Partly manufactured.....	1	481	666	31	503	748
Fully or chiefly manufactured.....	3	567	605	48	492	568
Totals, Wildlife Origin.....	3,904	17,832	22,393	4,196	19,699	24,453
Marine Origin						
Raw materials.....	1	67,967	68,858	3	73,469	74,700
Partly manufactured.....	65	705	770	50	493	544
Fully or chiefly manufactured.....	4,783	14,371	44,161	11,509	15,718	56,850
Totals, Marine Origin.....	4,849	83,043	113,789	11,562	89,680	132,094
Forest Origin						
Raw materials.....	8,200	53,394	64,142	7,493	50,253	61,226
Partly manufactured.....	79,315	430,781	556,129	106,059	454,760	623,307
Fully or chiefly manufactured.....	23,134	607,299	675,214	33,138	602,421	694,064
Totals, Forest Origin.....	110,649	1,091,474	1,295,485	146,690	1,107,434	1,378,597
Mineral Origin						
Raw materials.....	40,784	144,814	235,418	38,196	154,566	241,121
Partly manufactured.....	165,688	385,703	612,571	194,523	349,160	630,352
Fully or chiefly manufactured.....	12,372	193,793	381,248	7,157	173,064	326,086
Totals, Mineral Origin.....	218,844	724,311	1,229,237	239,876	676,790	1,197,559
Mixed Origin						
Raw materials.....	—	1,886	1,891	—	2,046	2,047
Partly manufactured.....	—	288	365	3	474	605
Fully or chiefly manufactured.....	11,003	141,057	228,637	16,611	126,798	217,344
Totals, Mixed Origin.....	11,003	143,231	230,893	16,614	129,318	219,996
Recapitulation						
Raw materials.....	318,220	518,782	1,327,791	243,644	474,886	1,062,275
Partly manufactured.....	246,850	826,965	1,189,222	302,472	814,256	1,275,371
Fully or chiefly manufactured.....	100,161	1,073,168	1,600,392	107,292	1,028,011	1,543,626
Grand Totals.....	665,232	2,418,915	4,117,406	653,408	2,317,153	3,881,272

¹ In this classification the expression "Canadian Farm Products" refers to commodities actually produced, in their original state, on Canadian farms. "Foreign Farm Products" covers materials or commodities such as Canada does not produce in their original forms, e.g., cane sugar, tea, rubber, cotton, silk, etc.

20.—Imports according to Purpose by Group 1953 and 1954

Group and Purpose	1953			1954		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Producers' Materials	175,166	829,371	1,360,283	148,495	761,674	1,247,502
Farm Materials—						
Fodders.....	1	10,896	10,979	1	15,509	17,201
Fertilizers.....	145	9,723	12,327	144	10,471	12,332
Seeds.....	122	1,603	2,410	53	2,208	3,158
Other.....	782	8,827	10,261	939	9,224	10,971
Totals, Farm Materials.....	1,049	31,050	35,977	1,136	37,502	43,662
Manufacturers' Materials—						
Food and beverages.....	359	6,183	9,531	226	6,942	10,176
Tobacco, smokers' supplies.....	—	1,514	2,769	—	1,610	2,596
Textiles, clothing, cordage.....	81,908	143,593	289,897	62,224	134,643	243,050
Fur and leather goods.....	6,711	26,488	38,031	5,208	23,883	32,596
Sawmills.....	—	—	—	—	—	—
Rubber industries.....	880	11,413	30,197	654	10,835	27,147
Other manufactures.....	66,841	483,660	796,265	61,300	426,382	734,225
Totals, Manufacturers' Materials.....	156,698	672,850	1,166,689	129,612	604,296	1,049,791
Building and Construction Materials.....	17,359	123,269	155,340	17,705	117,426	151,515
Other Producers' Materials.....	60	2,202	2,276	41	2,450	2,534
Producers' Equipment	85,416	791,880	905,959	69,559	711,506	815,748
Farm.....	6,260	206,461	215,850	5,709	141,084	150,478
Commerce and industry.....	79,156	585,418	690,109	63,850	570,422	665,270
Fuel, Electricity and Lubricants	4,872	249,822	273,528	3,670	197,441	232,559
Fuel.....	4,794	238,745	262,316	3,629	185,904	220,911
Electricity.....	—	315	315	—	1,198	1,198
Lubricants.....	78	10,762	10,897	41	10,339	10,451
Transport	66,258	482,863	552,859	46,500	422,724	473,900
Road.....	37,802	322,312	363,170	25,937	263,014	293,359
Rail.....	3,641	20,185	23,834	2,997	34,088	37,111
Water.....	1,116	6,167	7,651	755	7,475	8,385
Aircraft.....	23,699	134,199	158,204	16,811	118,147	135,045
Auxiliary Materials for Commerce and Industry	4,670	37,708	45,608	4,603	33,971	42,036
Advertising material.....	391	6,008	6,507	409	6,519	7,088
Containers.....	4,114	22,234	29,428	3,987	21,515	28,732
Other.....	165	9,466	9,674	207	5,937	6,216
Consumer Goods	89,353	464,052	827,552	85,311	464,227	848,077
Foods.....	10,551	125,724	273,620	10,516	149,027	308,852
Beverages.....	13,287	19,061	114,970	14,654	17,235	124,141
Smokers' supplies.....	361	3,430	4,152	333	3,206	4,027
Clothing.....	19,185	25,477	50,896	17,891	22,018	47,596
Household goods.....	30,702	147,375	194,412	28,043	129,409	175,197
Jewellery, time pieces, etc.....	2,058	10,955	30,683	1,806	9,179	26,382
Books, educational supplies, etc.....	3,569	51,095	58,052	3,421	53,967	61,632
Recreational equipment, etc.....	5,607	41,041	51,801	4,714	36,602	46,947
Medical supplies, etc.....	2,442	32,246	37,990	2,568	34,862	41,142
Other.....	1,591	7,649	10,975	1,365	8,721	12,161
Munitions and War Stores	3,090	40,419	44,713	7,815	29,317	41,132
Live Animals for Food	—	486	486	—	301	301
Unclassified	24,566	324,613	371,842	26,519	340,218	391,939
Totals, Imports	453,391	3,221,214	4,382,830	392,472	2,961,380	4,093,196

21.—Exports according to Purpose by Group 1953 and 1954

Group and Purpose	1953			1954		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Producers' Materials	592,583	1,874,308	3,135,039	582,328	1,789,319	2,950,157
Farm Materials—						
Fodders.....	42,882	143,601	257,388	41,190	99,932	169,681
Fertilizers.....	40	40,510	43,290	—	39,755	42,934
Seeds.....	736	14,430	19,246	2,091	12,748	17,977
Other.....	—	4,201	4,256	—	2,483	2,645
Totals, Farm Materials.....	43,657	202,741	324,181	43,282	154,918	233,238
Manufacturers' Materials—						
Food and beverages.....	206,391	23,720	567,939	132,990	12,017	375,364
Tobacco, smokers' supplies.....	12,905	6	15,690	14,579	10	18,096
Textiles, clothing, cordage.....	868	4,696	10,988	1,150	2,232	8,579
Fur and leather goods.....	6,095	25,082	36,154	7,109	25,528	39,777
Sawmills.....	1,052	3,433	5,408	826	3,044	5,162
Rubber industries.....	—	349	352	8	305	322
Other manufactures.....	264,890	1,376,507	1,846,181	308,346	1,332,581	1,900,704
Totals, Manufacturers' Materials....	492,201	1,433,793	2,482,712	465,009	1,375,718	2,348,004
Building and Construction Materials.....	56,724	237,390	327,580	74,037	258,467	368,485
Other Producers' Materials.....	—	384	566	—	216	429
Producers' Equipment	9,521	143,730	215,934	6,106	123,178	205,900
Farm.....	266	73,719	91,326	227	64,402	89,415
Commerce and industry.....	9,256	70,010	124,608	5,879	58,775	116,485
Fuel, Electricity and Lubricants	1,055	15,338	18,184	1,429	12,516	17,551
Fuel.....	1,055	6,984	9,796	1,429	5,089	10,028
Electricity.....	—	8,343	8,345	—	7,420	7,422
Lubricants.....	—	12	42	—	6	101
Transport	1,822	44,047	149,772	982	31,676	82,015
Road.....	214	4,096	80,707	305	4,505	36,603
Rail.....	—	2,132	9,041	2	419	8,439
Water.....	—	1,304	19,778	1	1,629	8,530
Aircraft.....	1,609	36,515	40,247	675	25,123	28,442
Auxiliary Materials for Commerce and Industry	238	4,562	8,922	478	4,606	8,745
Containers.....	238	4,562	8,801	478	4,606	8,658
Other.....	—	—	121	—	1	87
Consumer Goods	51,123	228,875	428,763	49,615	225,066	421,513
Food.....	48,633	149,493	317,670	47,227	149,135	314,740
Beverages.....	919	57,706	68,094	682	57,181	64,060
Smokers' supplies.....	103	28	437	88	29	506
Clothing.....	411	4,589	6,800	402	4,139	6,639
Household goods.....	56	2,560	7,139	76	2,556	8,519
Jewellery, timepieces, etc.....	29	168	842	22	153	961
Books, educational supplies, etc.....	255	3,352	7,891	337	3,840	8,342
Recreational equipment, etc.....	539	8,398	11,583	525	6,577	10,102
Medical supplies, etc.....	189	2,231	7,661	255	1,363	6,766
Other.....	11	352	644	1	32	278
Munitions and War Stores	—	38,391	43,983	—	52,022	53,352
Live Animals for Food	—	6,562	6,706	—	11,071	11,203
Unclassified	8,890	63,101	110,104	12,469	67,760	130,836
Totals, Exports.....	665,232	2,418,915	4,117,406	653,408	2,317,153	3,881,272

Section 6.—Comparison of Value, Price and Volume of Foreign Trade

Since the end of World War II there has been a substantial increase in the value of Canada's exports and imports. Changes in the value of trade however are the joint product of changes in the volume of goods traded and of the prices at which transactions are conducted. To assess the significance of value changes it is desirable to eliminate the contributions made to them by the price and volume factors.

Special indexes of export and import prices have been developed to provide this information. These indexes are based chiefly on unit values (average prices) calculated from the trade statistics, supplemented by information on wholesale and retail prices. Price relatives are calculated for a sample of commodities representing the greater part of export and import trade, and these relatives are weighted by the percentage of 1948 trade represented by each commodity in the sample in obtaining group and total indexes. By dividing these price indexes into the trade values the effects of price change are removed from the values, or by dividing the price index into an index of values on the same time-base an index is obtained showing changes in the volume of trade from year to year.

The grouping of commodities used in these calculations differs slightly from that of the regular trade statistics, changes being desirable to simplify the pricing problem. The chief difference is that the first two main groups of the trade statistics have been combined into one group, "agricultural and animal products", and that the sub-group "rubber and its products" has been transferred from this group to the "miscellaneous group".

The import totals differ from those usually published by the exclusion of certain goods brought into Canada by the governments of the United Kingdom and NATO countries for the use of their defence forces. Table 22 shows the value of trade adjusted for pricing purposes, and the value, price and volume indexes of Canadian trade for 1952-55.

There has been comparatively little change in export or import prices in the period covered by Table 22 and as a result the year-to-year change shown by the volume indexes closely resembles that shown by the corresponding value indexes. However even in this period the part played by falling prices in accentuating the relatively moderate decline in export volume from 1952 to 1954 stands out clearly. In periods of rapid and widespread price change such as 1950-52, value statistics diverged appreciably from the movements shown by the volume series.

22.—Declared Values and Value, Price and Physical Volume Indexes of Foreign Trade by Commodity Group 1952-55

Commodity Group ¹	1952	1953	1954	1955
DECLARED VALUES				
	\$'000	\$'000	\$'000	\$'000
Declared Values of Imports	4,030,468	4,382,830	4,093,196	4,712,370
Agricultural and animal products.....	522,597	526,025	579,962	600,292
Fibres and textiles.....	359,440	387,115	353,324	381,613
Wood products and paper.....	129,411	154,445	158,912	188,431
Iron and steel and products.....	1,402,232	1,521,044	1,312,976	1,597,472
Non-ferrous metals and products.....	304,218	376,170	368,638	411,512
Non-metallic minerals and products.....	638,754	654,524	594,638	659,171
Chemicals and fertilizer.....	190,843	225,786	224,984	265,012
Miscellaneous.....	464,059	507,986	494,755	563,504
Totals, Adjusted Imports ²	4,011,555	4,353,094	4,068,190	4,667,007
Imports for use of U.K. and NATO Governments.....	18,913	29,736	25,006	45,363
Declared Values of Exports³	4,301,080	4,117,406	3,881,272	4,281,784
Agricultural and animal products.....	1,403,747	1,339,348	1,062,206	1,006,146
Fibres and textiles.....	27,697	24,333	20,969	22,816
Wood products and paper.....	1,366,787	1,295,396	1,378,354	1,520,921
Iron and steel and products.....	417,538	376,891	307,537	402,957
Non-ferrous metals and products.....	706,732	682,183	709,017	826,390
Non-metallic minerals and products.....	143,474	147,393	145,573	206,200
Chemicals and fertilizer.....	124,565	137,885	161,293	210,040
Miscellaneous.....	110,540	113,977	96,323	86,314

For footnotes, see end of table, p. 1007.

22.—Declared Values and Value, Price and Physical Volume Indexes of Foreign Trade by Commodity Group 1952-55—concluded

Commodity Group ¹	1952	1953	1954	1955
VALUE INDEXES (1948=100)				
Imports²	152.3	165.2	154.4	177.1
Agricultural and animal products.....	129.7	130.5	143.9	149.0
Fibres and textiles.....	102.5	110.4	95.1	108.8
Wood products and paper.....	183.4	218.9	225.3	267.1
Iron and steel and products.....	179.0	194.2	167.6	203.9
Non-ferrous metals and products.....	194.5	240.5	235.7	263.1
Non-metallic minerals and products.....	105.9	108.5	98.6	109.3
Chemicals and fertilizer.....	157.3	186.2	185.5	218.5
Miscellaneous.....	317.9	347.9	338.9	386.0
Domestic Exports³	139.9	133.9	126.2	139.2
Agricultural and animal products.....	134.3	128.1	101.6	96.2
Fibres and textiles.....	60.8	53.4	46.0	50.1
Wood products and paper.....	143.3	135.8	144.5	159.5
Iron and steel and products.....	115.1	103.9	84.7	111.0
Non-ferrous metals and products.....	178.5	172.3	179.1	208.7
Non-metallic minerals and products.....	151.2	155.3	153.4	217.3
Chemicals and fertilizer.....	156.0	172.7	202.0	263.1
Miscellaneous.....	113.8	117.4	99.2	88.9
PRICE INDEXES (1948=100)				
Imports²	110.4	109.4	109.5	110.5
Agricultural and animal products.....	102.3	97.4	104.4	99.8
Fibres and textiles.....	108.5	100.4	99.8	95.5
Wood products and paper.....	115.3	117.1	117.5	119.4
Iron and steel and products.....	117.3	120.1	120.4	125.2
Non-ferrous metals and products.....	120.5	119.7	120.4	124.8
Non-metallic minerals and products.....	101.7	104.8	102.1	100.6
Chemicals and fertilizer.....	109.0	109.4	108.1	109.9
Miscellaneous.....	123.5	111.0	105.3	119.7
Domestic Exports³	121.8	118.3	115.1	117.5
Agricultural and animal products.....	107.6	103.5	96.8	96.5
Fibres and textiles.....	120.0	114.1	108.6	106.4
Wood products and paper.....	122.4	118.3	116.3	118.0
Iron and steel and products.....	131.4	134.2	132.3	133.3
Non-ferrous metals and products.....	142.6	135.0	134.6	149.4
Non-metallic minerals and products.....	143.1	149.5	150.2	149.9
Chemicals and fertilizer.....	119.3	117.1	115.0	114.8
Miscellaneous.....	129.7	123.6 ²	123.5	125.2
VOLUME INDEXES (1948=100)				
Imports²	138.0	151.0	141.0	160.3
Agricultural and animal products.....	126.8	134.0	137.8	149.3
Fibres and textiles.....	94.5	110.0	85.3	113.9
Wood products and paper.....	159.1	186.9	191.7	223.7
Iron and steel and products.....	152.6	161.7	139.2	162.9
Non-ferrous metals and products.....	161.4	200.9	195.8	210.8
Non-metallic minerals and products.....	104.1	103.5	96.6	108.6
Chemicals and fertilizer.....	144.3	170.2	171.6	198.8
Miscellaneous.....	257.4	313.4	321.8	322.5
Domestic Exports³	114.9	113.2	109.6	118.5
Agricultural and animal products.....	124.8	123.8	105.0	99.7
Fibres and textiles.....	50.7	46.8	42.4	47.1
Wood products and paper.....	117.1	114.8	124.2	135.2
Iron and steel and products.....	87.6	77.4	64.0	83.3
Non-ferrous metals and products.....	125.2	127.6	133.1	139.7
Non-metallic minerals and products.....	105.7	103.9	102.1	145.0
Chemicals and fertilizer.....	130.8	147.5	175.7	229.2
Miscellaneous.....	87.7	95.0 ²	80.3	71.0

¹ Groups, though classified by component material, differ slightly from conventional groups (see text, p. 1006).

² Excludes imports for the use of the United Kingdom and NATO Governments.

³ Excludes exports of foreign produce.

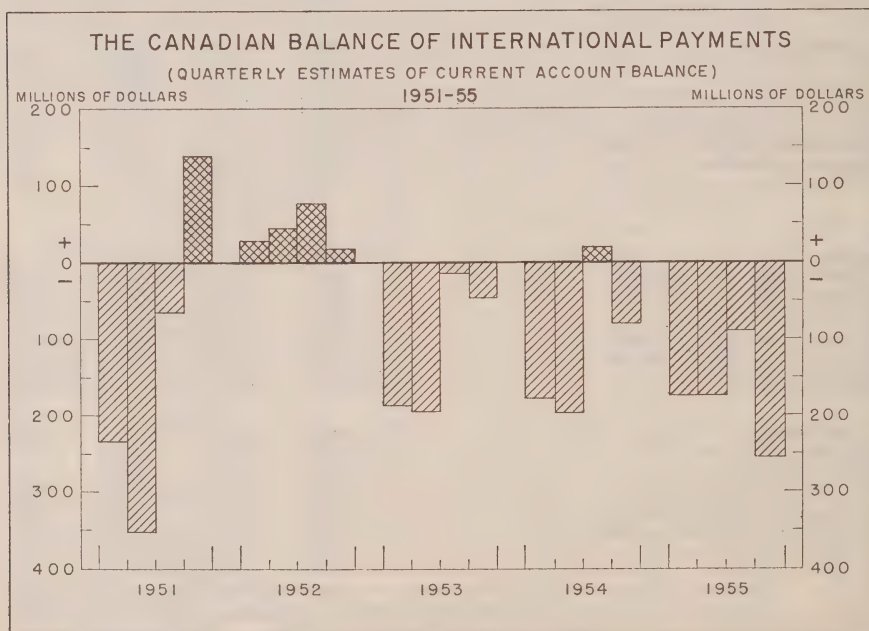
PART III.—EXTERNAL TRANSACTIONS*

Section 1.—Canadian Balance of International Payments

A summary of Canada's total commercial and financial transactions with other countries is presented in statements of the Canadian Balance of International Payments. The current account statement, showing all current exchanges of goods and services, reveals income and expenditures abroad and the extent to which these are out of balance. The capital account presents an analysis of the movements of capital which have occurred during the periods covered by the current account.

Each year since 1950, with the exception of 1952, Canada's current expenditures abroad have exceeded external current receipts. The resulting current account deficits that have occurred in this period of rapid Canadian development have been financed by inflows of capital. Current account deficits have customarily been associated with periods of Canadian prosperity and once again the rate of recent Canadian growth with the development of new resources has been the underlying element in the strength of Canadian demands for imported goods and services. High levels of investment at a time when defence expenditures have also been very heavy together with rising levels of consumption have contributed to the deficits. Before 1955 the deficits in recent years have not been large in proportion to the high levels of total current transactions and, until then, capital inflows of a long term type were large enough to finance the deficits in most periods. But in 1955 the current deficit rose to a new peak of \$692,000,000 which represented a higher proportion of current receipts than for any year since 1930, and this deficit was substantially more than the net inflow of longterm capital.

* Prepared in the Balance of Payments Section, International Trade Division, Dominion Bureau of Statistics. More detailed information is given in the publications, *Canadian Balance of International Payments* and *Canada's International Investment Position, 1926 to 1954*.



Current Account Transactions.—The current deficit in 1954 of \$432,000,000 was only slightly less than that of \$443,000,000 in 1953, although there was some slowing down in Canadian economic activity late in 1953 and also in 1954. The size of the deficit in 1954 was not greatly reduced as there was some decline in current external receipts and also in expenditures abroad and by the second half of the year upward trends in economic activity had reappeared in North America. The relative stability in the balance was also partly caused by opposite movements in the balances of merchandise trade and of other current transactions. A change from an import balance on merchandise trade to an export balance was partly offset by a larger deficit on non-merchandise account.

The change in 1954 from an import balance to a small export balance in the balance on merchandise trade, when adjusted for use in balance of payments statements, was not as large as occurred in the merchandise account in immediately preceding years. There was however a considerable contraction in the value of both exports and imports. Prominent among influences on Canadian trade in 1954 were the divergent trends in industrial activity in North America and western Europe. Declines occurred in exports to the United States and to overseas countries but the latter decline was concentrated in a few commodities, such as wheat and automobiles, subject to special influences. Other exports overseas were greater, reflecting the high level in economic activity in western Europe particularly. Although there were general declines in Canadian imports in 1954 influenced by the interruption in Canadian expansion, the value was still higher than in any year prior to 1953. The decline in value of imports was probably greater than shown but a change in the procedure of coding imports increased the value of imports in June 1954 by an estimated \$40,000,000. Import prices remained stable in contrast to export prices which fell by 2·7 p.c.

The deficit on non-merchandise account of \$445,000,000 was at a new high level in 1954, accounted for to a great extent by larger deficits on income and travel account. These two items, along with a deficit on all other current transactions, were responsible for most of the current deficit. The large deficit on income account was attributable to larger payments of both interest and dividends to investors abroad at a time when receipts of interest and dividends were lower. The increase in the deficit on travel account resulted mainly from a rise in Canadian travel expenditures in overseas countries. The travel account with the United States showed comparative stability in the face of the recession in business in North America. The deficit on freight and shipping account was less in 1954 than in 1953 but it remained high in comparison with earlier years. The deficit on miscellaneous current transactions was higher mainly because of a larger reduction in receipts than in payments.

Although only a small reduction occurred in the size of the current deficit with all countries, there were larger changes in the bilateral imbalance in Canada's accounts. The current deficit with the United States fell by \$97,000,000 to \$807,000,000 and the surplus with the United Kingdom rose by a slightly larger amount to \$229,000,000. At the same time considerable contractions occurred in the current surplus with the rest of the overseas world.

The reduction in the deficit with the United States was caused by a greater fall in imports than in exports. The reduction in the deficit on commodity account however was partly offset by a considerable increase in the deficit on invisibles arising mainly from a sharp advance in net payments of interest and dividends.

The enlarged surplus with the United Kingdom was still considerably less than in other postwar years except for 1950, 1951 and 1953. The increase in 1954 was the result of changes in both trade and non-merchandise items. In response to strong increases in industrial activity in the United Kingdom, Canadian exports of industrial materials rose and offset the decline in wheat exports. At the same time Canadian imports from the United Kingdom fell, particularly imports of textiles and automobiles. The smaller deficit on invisibles reflects mainly some large non-recurring defence payments for services in 1953.

The surplus with countries included in the Organization for European Economic Co-operation was smaller than in any other postwar year and that with other sterling area countries was about one-half the size of the previous year, while the surplus with the remaining group of other countries almost disappeared in 1954. Exports to each of these groups of countries declined in 1954. A considerable decline in wheat exports was primarily responsible but motor vehicle exports also contributed. Exports of some industrial materials however were higher, particularly to western Europe. In contrast to the decline in exports, imports from these areas were either well maintained or higher. A sharp rise in the deficit on invisibles with western European countries can be traced primarily to increased freight and shipping payments.

Capital Movements.—The longterm capital inflows which have been a prominent feature of Canada's capital account in recent years are closely related to the financing of Canadian development. Many of these inflows are for the direct development of Canadian resources by non-resident firms. Some have taken the form of Canadian borrowing in the United States through the sale of new issues of Canadian securities while others have arisen from international trading in securities and other means. Although in some areas of development capital inflows have been the predominant source of financing, this is not so with all types of new investment in Canada. Consequently foreign capital has been only a minority contributor to the total investment in Canada although a relatively large contributor to some spheres of industrial development.

The outstanding feature of capital movements in 1954 was again the predominance of inflows of a longterm character, and inflows for direct investment were once again the largest group of net inflows. However total inflows for direct investment at \$392,000,000 were less than the \$426,000,000 recorded in the preceding year in contrast to a rising trend up until 1953. Inflows of new capital for direct investment in the petroleum industry continued to rise to a new peak of \$177,000,000 but declines occurred in inflows for direct investment in other mining industries and in manufacturing. United States capital constituted about three-quarters of the net inflow in 1954 but made up a somewhat lower proportion of total direct investment inflow than in recent years. The inflow from the United Kingdom at \$75,000,000 was at a new peak but that from other countries was less than in 1953.

The net inflow of capital for longterm investment through the sale of new issues of Canadian securities abroad amounted to \$128,000,000 in 1954, somewhat less than in 1953. Sales of new issues at \$331,000,000 were only moderately less than in 1953 but retirements at \$203,000,000 were considerably higher. New issues were concentrated in the early months of the year and the volume declined as the margin between interest rates in Canada and the United States narrowed.

For the first time since 1951 trade in outstanding Canadian securities led to a capital inflow in 1954 of \$63,000,000 a result of widely divergent capital movements. Canadians repurchased government bonds mainly from the United States but sold corporation bonds and stock to the United States, United Kingdom and other countries. While the rate of repatriation was considerably higher than in 1953 there was a marked growth in sales to non-residents of securities of Canadian corporations. These included net sales of \$121,000,000 worth of stocks of Canadian companies. Contributing to this development was a change in administrative arrangements in the United States which facilitated the formation of Canadian diversified management investment companies with important tax advantages to United States investors.

Among other capital inflows were repayments of \$72,000,000 on Canada's war and postwar loans to overseas governments, a rise of \$34,000,000 in non-resident holdings of Canadian dollars and a small balance of \$7,000,000 from liquidations of Canadian holdings of outstanding foreign securities.

Outflows of \$33,000,000 for purchases of foreign new issues included a \$25,000,000 Canadian currency issue of the International Bank for Reconstruction and Development. There were also outflows of \$81,000,000 connected with direct investments in Canadian enterprises abroad and an outflow of \$121,000,000 in the capital account with the United States reflecting a rise in official holdings of gold and United States dollars. The remaining group of private short term movements of capital was close to balance in 1954 in sharp contrast with very heavy outflows of private short term capital in the two preceding years. This group covers a great variety of transactions subject to a wide degree of variability.

1.—Current Account between Canada and All Countries 1936-55

(Millions of dollars)

Year	Current Receipts ¹	Current Payments ²	Net Balance including Mutual Aid Exports	Wartime Grants and Mutual Aid	Net Balance on Current Account Indicating Net Movement of Capital
1936.....	1,430	1,186	+244	—	+244
1937.....	1,593	1,413	+180	—	+180
1938.....	1,361	1,261	+100	—	+100
1939.....	1,457	1,331	+126	—	+126
1940.....	1,776	1,627	+149	—	+149
1941.....	2,458	1,967	+491	—	+491
1942.....	3,376	2,275	+1,101	-1,002	+99
1943.....	4,064	2,858	+1,206	-518	+688
1944.....	4,557	3,539	+1,018	-960	+58
1945.....	4,456	2,910	+1,546	-853	+688
1946.....	3,365	2,905	+460	-97	+363
1947.....	3,748	3,699	+49	—	+49
1948.....	4,147	3,696	+451	—	+451
1949.....	4,089	3,912	+177	—	+177
1950.....	4,297	4,574	-277	-57	-334
1951.....	5,311	5,683	-372	-145	-517
1952.....	5,858	5,494	+364	-200	+164
1953.....	5,737	5,934	-197	-246	-443
1954.....	5,520	5,668	-148	-284	-432
1955.....	6,061	6,531	-470	-222	-692

¹ Includes Mutual Aid exports.

² Excludes Mutual Aid offsets.

2.—Geographical Distribution of the Balance on Current Account between Canada and Other Countries 1936-55

NOTE.—In the years 1942-46 balances include exports of currently produced goods provided as Mutual Aid or Official Contributions. (See also Table 1.)

(Millions of Canadian dollars)

Year	United States ¹	United Kingdom ²	Other Overseas Countries ³	All Countries	Year	United States ¹	United Kingdom ²	Other Overseas Countries ³	All Countries
1936.....	-1	+122	+123	+244	1946....	-607	+500	+567	+460
1937.....	-77	+135	+122	+180	1947....	-1,134	+633	+550	+49
1938.....	-149	+127	+122	+100	1948....	-393	+486	+358	+451
1939.....	-116	+137	+105	+126	1949....	-601	+446	+332	+177
1940.....	-292	+343	+98	+149	1950....	-400	+24	+42	-334
1941.....	-318	+734	+75	+491	1951....	-951	+223	+211	-517
1942.....	-180	+1,223	+58	+1,101	1952....	-849	+388	+625	+164
1943.....	-19	+1,149	+76	+1,206	1953....	-904	+133	+328	-443
1944.....	+31	+746	+241	+1,018	1954....	-807	+229	+146	-432
1945.....	+36	+747	+763	+1,546	1955 ² ...	-1,041	+341	+8	-692

¹ Includes all net exports of non-monetary gold.

² Excludes wheat exports diverted to other overseas

countries and exports of gold.

³ Includes estimated value of wheat sold in European countries.

3.—Balance of International Payments between Canada and All Countries 1950-55

(Millions of dollars)

Item	1950	1951	1952	1953	1954	1955
A. CURRENT RECEIPTS—						
Merchandise exports (adjusted) ¹	3,139	3,950	4,339	4,152	3,929	4,332
Mutual Aid to NATO countries.....	57	145	200	246	284	222
Gold production available for export.....	163	150	150	144	155	155
Tourist and travel expenditure.....	275	274	275	302	305	328
Interest and dividends.....	91	115	145	165	147	160
Freight and shipping.....	284	351	383	318	313	385
All other current credits.....	288	326	366	410	387	479
TOTALS, CURRENT RECEIPTS.....	4,297	5,311	5,858	5,737	5,520	6,061
B. CURRENT PAYMENTS—						
Merchandise imports (adjusted).....	3,129	4,097	3,850	4,210	3,916	4,540
Tourist and travel expenditure.....	226	280	341	365	389	449
Interest and dividends.....	475	450	413	404	423	477
Freight and shipping.....	301	354	375	374	356	408
Official contributions ²	62	154	216	271	295	246
All other current debits.....	438	493	499	556	573	633
TOTALS, CURRENT PAYMENTS.....	4,631	5,828	5,694	6,180	5,952	6,753
C. NET BALANCE ON CURRENT ACCOUNT.....	-334	-517	+164	-443	-432	-692
D. CAPITAL TRANSACTIONS—						
Direct investment in Canada.....	+222	+309	+346	+426	+392	+410
Net new issues or retirements of Canadian securities held abroad.....	-74	+227	+227	+189	+128	-18
Net sales or purchases of outstanding securities.....	+399	+53	-82	-9	+70	-1
Loans and Advances by Government of Canada—						
Loan of 1946 to United Kingdom.....	-50	+14	+14	+14	+15	+15
Postwar loans to other countries.....	+23	+20	+19	+23	+27	+24
Repayments on war loans to United Kingdom.....	+51	+34	+23	+50	+30	+30
Change in Canadian dollar holdings of foreigners.....	+233	-192	-66	-18	+34	+89
Other capital movements ³	+224	+91	-565	-274	-143	+101
NET MOVEMENT OF CAPITAL EXCLUSIVE OF CHANGE IN OFFICIAL HOLDINGS OF GOLD AND U.S. DOLLARS.....	+1,028	+556	-84	+401	+553	+650
E. CHANGE IN OFFICIAL HOLDINGS.....	+694	+39	+80	-42	+121	-42

¹ Includes official contributions in kind, *n.o.p.*
errors and omissions.

² Includes Mutual Aid to NATO countries.

³ Includes

4.—Current Account Transactions between Canada and the United States 1950-55

(Millions of dollars)

Item	1950	1951	1952	1953	1954	1955 ^a
A. CURRENT RECEIPTS—						
Merchandise exports (adjusted).....	2,046	2,326	2,346	2,458	2,355	2,598
Net exports of non-monetary gold.....	163	150	150	144	155	155
Travel expenditure.....	260	258	257	282	283	303
Interest and dividends.....	50	57	85	101	69	82
Freight and shipping.....	157	164	174	164	169	190
All other current receipts.....	201	223	262	294	275	359
TOTALS, CURRENT RECEIPTS.....	2,877	3,178	3,274	3,443	3,306	3,696
B. CURRENT PAYMENTS—						
Merchandise imports (adjusted).....	2,093	2,842	2,817	3,046	2,800	3,280
Travel expenditure.....	193	246	294	307	320	363
Interest and dividends.....	411	382	344	334	345	393
Freight and shipping.....	240	276	302	296	261	287
All other current payments.....	340	383	366	364	387	414
TOTALS, CURRENT PAYMENTS.....	3,277	4,129	4,123	4,347	4,113	4,737
C. CURRENT ACCOUNT BALANCE.....	-400	-951	-849	-904	-807	-1,041

5.—Current Account Transactions between Canada and the United Kingdom 1950-55

(Millions of dollars)

Item	1950	1951	1952	1953	1954	1955 ^p
A. CURRENT RECEIPTS—						
Merchandise exports (adjusted).....	469	636	727	656	660	772
Travel expenditure.....	7	8	10	12	13	13
Interest and dividends.....	6	30	29	28	35	38
Freight and shipping.....	61	91	105	79	73	94
All other current receipts.....	47	56	54	55	55	63
TOTALS, CURRENT RECEIPTS.....	590	821	925	830	836	980
B. CURRENT PAYMENTS—						
Merchandise imports (adjusted).....	399	417	350	463	391	405
Travel expenditure.....	19	20	27	31	35	40
Interest and dividends.....	54	57	56	57	62	64
Freight and shipping.....	36	43	42	42	39	47
All other current payments.....	58	61	62	104	80	83
TOTALS, CURRENT PAYMENTS.....	566	598	537	697	607	639
C. CURRENT ACCOUNT BALANCE.....	+24	+223	+388	+133	+229	+241

6.—Capital Transactions between Canada and the United States¹ 1950-55

(Millions of dollars)

Item	1950	1951	1952	1953	1954	1955 ^p
A. CURRENT ACCOUNT BALANCE.....	-400	-951	-849	-904	-807	-1,041
B. CAPITAL ACCOUNT—						
Direct investments in Canada.....	+200	+270	+319	+346	+288	+306
Canadian direct investments abroad.....	+41	-4	-42	-33	-46	-54
New issues of Canadian securities.....	+210	+404	+315	+322	+299	+127
Retirements of Canadian securities.....	-263	-159	-75	-132	-184	-169
Net trade in outstanding Canadian securities.....	+362	+20	-104	-80	-	-62
Transactions in foreign securities.....	+73	+17	+4	+3	+4	+21
Change in Canadian dollar holdings of foreigners.....	+89	-53	-37	-1	+19	+66
Other capital movements ²	+249	+59	-458	-223	+18	+128
Net capital movement.....	+961	+554	-78	+202	+398	+363
Balance settled by exchange transfers.....	+133	+436	+1,007	+660	+530	+636
C. CHANGE IN OFFICIAL HOLDINGS OF GOLD AND U.S. DOLLARS	+694	+39	+80	-42	+121	-42

¹ Includes some capital transactions on account of "other overseas countries".² Includes errors and omissions.

Section 2.—Travel between Canada and Other Countries

The most significant change in travel between Canada and other countries during 1954 was the increase of nearly 20 p.c. in the number of Canadians visiting overseas countries. Expenditures by Canadians in overseas countries reached an unprecedented high of \$69,000,000 in 1954, an increase of \$11,000,000 or 19 p.c. over the previous year. This increased spending in overseas countries contributed heavily to the aggregate debit balance in travel account with all countries which stood at an alltime high of \$84,000,000.

In contrast the travel account between Canada and the United States remained relatively stable in 1954 with a moderately larger deficit resulting from small changes in receipts and payments. This comparative stability in the face of the recession in business in North America was possible because personal incomes and expenditures on consumption remained high and some types of traffic between the two countries rose in volume.

In 1955 expenditures in Canada by United States visitors reached a new peak but, even so, the debit balance with all countries was greater than in 1954 since Canadian expenditures both overseas and in the United States increased more than non-resident expenditures in Canada.

United States Travel Expenditures in Canada.—Residents of the United States travelling in Canada spent over \$283,000,000 in 1954, about \$1,000,000 more than the previous record in 1953. Those travelling by automobile spent approximately \$7,000,000 less and those travelling by other means of transportation spent nearly \$8,100,000 more than in 1953. Automobiles entering on customs permits form the most important source of revenue from travel in Canada. The expenditures of this group in 1954 declined to a greater extent than the volume; lower averages per car were reported, particularly in July and August when the volume was heaviest. With the exception of the Atlantic Provinces, average expenditures of this group, which contains the most "tourists", were lower in all regions in 1954 than in the previous year.

The northeastern States—Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont—accounted for about 45 p.c. of the automobiles travelling in Canada on customs permits, while 32 p.c. came from States in area of the Great Lakes—Illinois, Indiana, Michigan, Ohio and Wisconsin.

Boat traffic accounted for approximately 34 p.c. of the \$8,000,000 increase in expenditures of non-automobile traffic in 1954; increased volume and higher average expenditure per person were reported. Persons travelling by rail spent an additional \$2,300,000 in 1954—an advance to the highest figure since 1949; although the volume was about 4 p.c. lower than in 1953, the averages reported were consistently higher for each quarter of the year. Travellers arriving by aeroplane accounted for \$1,200,000 of the increase in non-automobile expenditures. Averages reported were 6 p.c. lower than for the previous year but the number of visitors entering Canada by this type of transportation was nearly 12 p.c. greater. Expenditures of persons arriving by bus were practically unchanged.

The other group of entries is large in number but is mainly made up of short term local crossings. This group showed an increase in expenditures of \$1,400,000 in 1954 as compared with 1953.

Residents of the United States spent more on travel outside their own country in 1954 than any previous year according to the United States Department of Commerce. For the second year in succession Canada received a smaller portion of United States travel expenditures in other countries than did Europe and the Mediterranean area, with the difference widening considerably. In 1954 European and Mediterranean countries received 37 p.c. of all expenditures on travel in other countries by residents of the United States compared with 33 p.c. in 1953. During 1954 Canada received 30 p.c. compared with 32 p.c. in the previous year and Mexico received 20 p.c. as compared with 21 p.c. in 1953. The West Indies and Central America maintained their share at 9 p.c. of the total and the remaining 5 p.c. was divided between South America and other overseas countries.

Canadian Travel Expenditures in the United States.—Although the number of visits to Canada by residents of the United States in 1954 exceeded visits of Canadians to the United States by over 3,000,000, or approximately 13 p.c., expenditures of Canadians in the United States exceeded expenditures of Americans in Canada by over \$37,000,000, or 13 p.c. Average expenditures by Canadians in foreign countries are normally higher than non-resident expenditures in Canada. In 1954 the average rate per person for visits lasting longer than 48 hours was \$88 for Canadians visiting the United States and \$53 for Americans visiting Canada, compared with \$86 and \$52 respectively in 1953. If the population of the two countries is taken into consideration, residents of Canada spent an average of \$21.06 per capita in the United States during 1954, and residents of the United States spent an average of \$1.76 per capita in Canada.

The increase of \$13,000,000 in expenditures was predominately in the longterm automobile and rail categories which is contrary to the previous year when most of the increase over 1952 was concentrated in the two day automobile class. The increase in purchases declared under the \$100 customs exemption was an important item in the gains experienced in 1953, but this item declined \$6,000,000 in 1954 to a level comparable to the \$66,000,000 figure reported in 1952.

During the latter part of 1954 a study was made on some of the characteristics of Canadian travel to the United States to supplement information otherwise collected.

Although some of the questionnaires reported more than one purpose of visit, final tabulations revealed that 39.4 p.c. reported recreation as the purpose of the trip and 29.9 p.c. reported visits to friends and relatives. Shopping appears to have been merely incidental in the majority of visits. Approximately 21 p.c. reported shopping as the main purpose of the trip and business appeared on 5 p.c. Persons travelling by aeroplane show a higher percentage of business trips than by other types of transportation.

Questionnaires listing more than one purpose of visit were not used in making comparisons on average length of stay and average expenditure per person. The average length of stay varied widely according to purpose of visit. Persons visiting the United States on shopping tours returned to Canada soon after the 48 hour time limit required for customs exemptions. The average length of stay reported by this group was 3.2 days while visits for educational purposes averaged 31 days. In view of the time of year the survey was conducted it is assumed that few university students would be included in the sample reporting education. Persons visiting the United States for miscellaneous purposes stayed an average of two weeks and persons visiting friends and relatives stayed 13 to 14 days.

There was also a wide variation in average expenditures according to purpose of visit. The survey showed that visits for educational purposes had the highest expenditure mainly because of the longer length of stay since the average per person per day was lower than for most other types of visits. Canadians visiting the United States on business had high average expenditures, as a result of higher outlays per day rather than greater length of stay. Persons on shopping tours reported the lowest average expenditure per visit, but the highest average when calculated on a per-person per-day basis. Canadians visiting friends or relatives in the United States have the lowest average expenditure per day of all purposes queried and also low averages per visit.

Travel between Canada and Overseas Countries.—The customary debit balance in travel account between Canada and overseas countries reached an alltime high of \$47,000,000 in 1954, the greatest spread between credits and debits on record. The spread between credits and debits has increased year by year to a point four times greater than the difference recorded in 1949. Expenditures in Canada by non-immigrant arrivals from overseas countries are estimated at \$22,000,000 in 1954, an increase of 10 p.c. over the previous record established in 1953. Included in these totals are transportation costs paid to Canadian carriers.

In 1954, 23,900 non-resident travellers arrived direct from overseas countries at Canadian ports of entry, 12,700 or 53 p.c. of whom travelled by ship and 11,200 or 47 p.c. by air. Compared with 1953 the total figure represents an increase of between 10 and 11 p.c., or approximately 2,300 persons. In addition an estimated 18,000 persons from overseas entered Canada via the United States, making a total of 41,900, an increase of 10 p.c. in the aggregate.

Data on the number of visitors direct from overseas using Canadian carriers as a means of transportation were compiled in 1954; approximately 66 p.c. of the visitors from overseas countries travelled by foreign carrier and 34 p.c. by Canadian air and steamship lines.

Residents of Canada returning via Canadian ports after visits to overseas countries numbered 73,600 in 1954, an increase of 20 p.c. over the previous record established in 1953. Approximately 50 p.c. of the re-entries direct from overseas countries in 1954 returned

through the airports of Gander, Nfld., Dorval, Que., Malton, Ont., and Vancouver, B.C., as compared with 45 p.c. in 1953, and the number so returning increased by about 32 p.c. This is an indication of the increasing popularity of the aeroplane with Canadians as a means of overseas transportation. Return traffic through the other main ports of entry—St. John's, Nfld., Halifax, N.S., Saint John, N.B., and Quebec, Que. (many returning residents cleared at Quebec disembark at Montreal)—is predominantly via ship and amounted to 33,800 persons in 1954 or about 46 p.c. of the total. The number of Canadian travellers returning from overseas countries via the United States in 1954 was estimated at 22,000, making a total of 95,600 returning Canadian travellers, an increase of 15,100 or 19 p.c. over the previous year.

Most of the expenditures by Canadians in overseas countries were in the United Kingdom and continental Europe. Expenditures in the United Kingdom increased 13 p.c. from \$31,000,000 in 1953 to \$35,000,000 in 1954. Expenditures in the countries included in the Organization for European Economic Co-operation showed a gain of \$5,000,000 or 28 p.c. Expenditures in other Commonwealth countries were chiefly in Bermuda and the British West Indies and were \$1,000,000 higher than in the previous year. The remaining expenditures were mainly made in Latin America and amounted to \$4,000,000 in 1954, an increase of \$1,000,000 over 1953.

7.—Number and Expenditure of Foreign Travellers in Canada and Canadian Travellers Abroad 1953 and 1954

Year and Class of Traveller	Foreign Travellers in Canada ¹	Foreign Expenditure in Canada	Canadians Travelling Abroad ¹	Canadian Expenditure Abroad	Excess of Foreign Travellers in Canada ¹	Excess of Foreign Expenditure in Canada
	No.	\$'000	No.	\$'000	No.	\$'000
1953						
Travellers from and to overseas countries.....	21,575	20,000	61,482	58,000	-39,907	-38,000
Travellers from and to the United States—						
Automobile—						
Short term visit ²	16,389,423	40,400	12,194,920	48,500	+4,194,503	-8,100
Longterm visit.....	3,003,821	116,500	1,389,432	84,500	+1,614,389	+32,000
Rail.....	1,026,169	43,900	512,523	61,600	+513,586	-17,700
Boat.....	325,404	14,200	127,144	5,100	+198,260	+9,100
Bus (exclusive of local bus).....	352,205	23,000	538,222	45,900	-186,017	-22,900
Aircraft.....	213,415	24,900	200,456	39,900	+12,959	-15,000
Other (pedestrians, local bus, etc.)	6,714,369	19,300	8,349,145	21,800	-1,634,776	-2,500
Totals, United States.....	28,024,746	282,200	23,311,842	307,300	+4,712,904	-25,100
Totals, All Countries.....	28,046,321	302,200	23,373,324	365,300	+4,672,997	-63,100
1954						
Travellers from and to overseas countries.....	23,862	22,000	73,558	69,000	-49,696	-47,000
Travellers from and to the United States—						
Automobile—						
Short term visit ²	15,730,413	40,700	13,687,026	56,100	+2,043,387	-15,400
Longterm visit.....	2,912,551	109,600	1,500,412	91,300	+1,412,149	+18,300
Rail.....	941,167	46,200	492,024	65,400	+449,143	-19,200
Boat.....	346,877	16,800	113,128	5,700	+233,749	+11,100
Bus (exclusive of local bus).....	335,196	23,200	499,614	44,100	-164,418	-20,900
Aircraft.....	238,468	26,100	212,457	39,900	+26,011	-13,800
Other (pedestrians, local bus, etc.)	5,907,883	20,700	6,838,722	17,500	-930,839	+3,200
Totals, United States.....	26,412,565	283,300	23,343,383	320,000	+3,069,182	-36,700
Totals, All Countries.....	26,436,427	305,300	23,416,941	389,000	+3,019,486	-83,700

¹ As these figures are the number of entries and re-entries into Canada, they include substantial amounts of in-transit, commuting and local traffic. ² Visits of less than 48 hours.

8.—Summary of Highway Traffic at Canadian Border Points by Province 1953 and 1954

Province or Territory	FOREIGN VEHICLES INWARD					
	Non-permit Local Traffic		Travellers' Vehicle Permits		Commercial Vehicles	
	1953	1954	1953	1954	1953	1954
	No.	No.	No.	No.	No.	No.
Nova Scotia and New Brunswick....	1,009,549	1,014,429	161,286	163,034	83,707	77,259
Quebec.....	348,679	315,117	413,016	396,783	59,019	64,008
Ontario.....	4,127,205	3,616,109	1,534,135	1,492,378	190,197	115,928
Manitoba.....	71,334	66,571	39,971	46,499	7,218	10,478
Saskatchewan.....	25,493	23,789	21,155	20,863	7,927	7,464
Alberta.....	23,254	24,912	44,450	44,894	6,013	4,570
British Columbia.....	122,165	120,510	283,846	278,376	17,232	22,645
Yukon Territory.....	1,520	1,536	8,255	8,017	1,176	1,019
Totals.....	5,729,199	5,182,973	2,506,114	2,450,844	372,489	303,371
Percentage change 1953-54.....	-9.5		-2.2		-18.6	
CANADIAN VEHICLES RETURNING						
After Stay of 24 Hours or Less		After Stay of Over 24 Hours		Commercial Vehicles		
1953	1954	1953	1954	1953	1954	
No.	No.	No.	No.	No.	No.	
Nova Scotia and New Brunswick...	1,128,197	1,210,512	44,816	41,832	93,575	89,703
Quebec.....	704,508	688,549	160,510	156,955	90,117	99,731
Ontario.....	1,488,384	1,946,264	281,225	390,280	112,547	164,208
Manitoba.....	125,330	136,014	51,059	51,086	20,222	25,646
Saskatchewan.....	57,265	62,604	35,461	30,613	14,702	13,819
Alberta.....	28,036	29,399	34,529	32,961	7,172	7,364
British Columbia.....	513,797	503,077	153,443	149,618	32,910	31,171
Yukon Territory.....	405	1,332	212	200	121	152
Totals.....	4,045,922	4,577,751	761,255	853,545	371,366	431,794
Percentage change 1953-54.....	+13.1		+12.1		+16.3	

Tourist Information.—Tourist information generally is supplied by the Canadian Government Travel Bureau, Ottawa, and detailed information on the National Parks and Historic Sites is available from the Department of Northern Affairs and National Resources, Ottawa. For advice regarding specific provinces or particular cities or resorts the tourist may apply to the provincial or municipal bureau of information concerned. (*See Directory of Sources of Official Information in Chapter XXIX under the heading "Tourist Trade".*)

PART IV.—THE GOVERNMENT AND FOREIGN TRADE

Section 1.—Foreign Trade Service and Associated Agencies concerned with the Development of Foreign Trade*

Foreign trade contributes substantially to the welfare and prosperity of Canadians, largely because the productive capacity of Canada is greater than the ability of its population to consume the output of farms, factories, forests, fisheries and mines. Every effort is made therefore to establish and maintain close commercial relations with other countries whose markets are essential to the Canadian economy. It is appreciated however that

* Prepared in the several Branches and Divisions concerned and collated in the Information Branch, Department of Trade and Commerce, Ottawa.

two way trade should be encouraged in order that goods and services may be accepted in partial payment for the products Canada is in a position to export. Furthermore many commodities that are not indigenous to this country have to be imported from abroad. Some of these are required for Canadian industrial processes and others may be classed as consumer goods necessary for the maintenance of a high standard of living.

Although many private firms have established connections in other countries that enable them to maintain a steady flow of goods in either direction, others require the assistance of government agencies in finding markets or sources of supply. Import and export controls imposed by many countries for a variety of reasons, together with postwar foreign exchange difficulties, present problems that no single firm or even an association of manufacturers, exporters or importers can solve without assistance from government representatives.

The Department of Trade and Commerce and associated agencies are at the disposal of exporters and importers engaged directly in the development of Canada's commercial relations with other countries. Services obtainable from the various branches, divisions and agencies are described below.

Canadian Trade Commissioner Service.—The Canadian Trade Commissioner Service is one of the important instruments in the continuous effort to increase Canadian international trade, to give worldwide distribution to Canadian products and to locate the best sources of supply for imports. Headquarters are at Ottawa, and 53 offices are maintained in 43 countries, staffed with trained Canadian trade officials and commodity specialists. The work of the Trade Commissioners in the field is co-ordinated in Ottawa by four Area Trade Officers. These Officers are familiar with every aspect of foreign trade in their geographical or political areas and are responsible to the Director of the Service for the collection, preparation and presentation of information on all trade matters in their respective territories.

Trade Commissioners bring together exporters and importers of Canada and other countries. They study potential markets for specific Canadian products and report on the exact kind of goods in demand, prices, competitive conditions, trade and exchange regulations, tariffs, shipping and packaging requirements, labelling, etc. Inquiries for Canadian goods are forwarded to the Department at Ottawa or directly to interested Canadian firms. For Canadian importers, Trade Commissioners seek sources of supply of a wide variety of goods. The preparation of economic and other reports for departmental use is an important activity for the Trade Commissioner. Assistance is given to Canadian exhibitors at overseas trade fairs and constant liaison is maintained with the trade departments of foreign governments.

In countries where Canada maintains a diplomatic mission as well as a trade office, Trade Commissioners form an integral part of the mission and assume the title of Commercial Counsellor or Commercial Secretary. In some foreign countries they act as Consuls General, Consuls or Vice-Consuls, according to their status as Foreign Service Officers.

In order to provide Canadian manufacturers, exporters and importers with up-to-date information concerning their territories more effectively than is possible by correspondence, tours of Canadian industrial centres are arranged from time to time for Trade Commissioners. Such direct contacts enable specific problems to be discussed and at the same time serve to bring into focus for the Trade Commissioner the Canadian industrial picture as a whole. He thus returns to his post with a knowledge of current Canadian conditions and in a better position to assist in the development and extension of Canadian trade opportunities.

CANADIAN FOREIGN TRADE OFFICES ABROAD AS AT OCT. 1, 1955

- ARGENTINA.—Commercial Counsellor, Canadian Embassy, Bartolomé Mitre 478, Buenos Aires.
- AUSTRALIA.—Commercial Counsellor for Canada, City Mutual Life Bldg., 60 Hunter Street, Sydney, N.S.W.
Commercial Secretary for Canada and Agricultural Secretary, 83 William Street, Melbourne.
- BELGIAN CONGO.—Canadian Government Trade Commissioner, Forescom Building, Leopoldville. Territory includes Angola and French Equatorial Africa.
- BELGIUM.—Commercial Counsellor, Canadian Embassy, 35 rue de la Science, Brussels. Territory includes Luxembourg.
- BRAZIL.—Commercial Secretary, Canadian Embassy, Edificio Metropole, Av. Presidente Wilson 165, Rio de Janeiro.
Consul and Trade Commissioner, Canadian Consulate, Edificio Alois, Rua 7 de Abril 252, São Paulo.
- CEYLON.—High Commissioner for Canada, 6 Gregory's Road, Cinnamon Garden, Colombo.
- CHILE.—Commercial Secretary, Canadian Embassy, 6th Floor, Av. General Bulnes, 129, Santiago.
- COLOMBIA.—Commercial Secretary, Canadian Embassy, Avenida Jimenez No. 7-25, Bogota. Territory includes Ecuador.
- CUBA.—Commercial Secretary, Canadian Embassy, Edificio Motor Centre, Calle Infanta 16, Havana.
- DENMARK.—Commercial Counsellor, Canadian Legation, 4 Trondhjems Plads, Copenhagen. Territory includes Greenland.
- DOMINICAN REPUBLIC.—Commercial Counsellor, Edificio Copello 408, Calle El Conde, Ciudad Trujillo. Territory includes Haiti and Puerto Rico.
- EGYPT.—Commercial Secretary, Canadian Embassy, 6 Sharia Rouston Pasha, Garden City, Cairo. Territory includes Aden, Sudan, Cyprus, Ethiopia and Saudi Arabia.
- FRANCE.—Commercial Counsellor for Canada, 3 rue Scribe, Paris. Territory includes Algeria, French Morocco, French West Africa and Tunisia.
Commercial Secretary for Canada, 3 rue Scribe, Paris.
- GERMANY.—Commercial Counsellor, Canadian Embassy, 22 Zitellmannstrasse, Bonn.
- GREECE.—Commercial Secretary, Canadian Embassy, 31 Vassillissis Sophias Ave., Athens. Territory includes Israel and Turkey.
- GUATEMALA.—Canadian Government Trade Commissioner, 5a Avenida Sud, 10-68, Guatemala City. Territory includes Costa Rica, El Salvador, Honduras, Nicaragua, Panama and Canal Zone.
- HONG KONG.—Canadian Government Trade Commissioner, Hong Kong and Shanghai Banking Corporation Building, Hong Kong. Territory includes China, Indo-China, Macao and Taiwan.
- INDIA.—Commercial Counsellor, Office of the High Commissioner for Canada, 4 Aurangzeb Road, New Delhi.
Commercial Secretary for Canada, Gresham Assurance House, Mint Road, Bombay.
- INDONESIA.—Commercial Secretary, Canadian Embassy, Budi Krmulian No. 6, Djakarta.
- IRELAND.—Commercial Counsellor for Canada, 66 Upper O'Connell Street, Dublin.
- ITALY.—Commercial Counsellor, Canadian Embassy, Via Saverio Mercadante 15, Rome. Territory includes Libya, Malta and Yugoslavia.
- JAMAICA.—Canadian Government Trade Commissioner, Canadian Bank of Commerce Chambers, Kingston. Territory includes Bahamas and British Honduras.
- JAPAN.—Commercial Counsellor, Canadian Embassy, Tokyo. Territory includes Korea.
Canadian Government Trade Commissioner, 7th Floor, Crescent Building, 72 Kyomachi, Ikutaku, Kobe.

CANADIAN FOREIGN TRADE OFFICES ABROAD—continued

- LEBANON.—Commercial Secretary, Canadian Legation, Alpha Building, Rue Clemenceau, Beirut. Territory includes Iraq, Jordan and Syria.
- MEXICO.—Commercial Counsellor, Canadian Embassy, Edificio Internacional, Paseo de la Reforma, Mexico, D.F.
- NETHERLANDS.—Commercial Secretary, Canadian Embassy, Sophialaan 1-A, The Hague.
- NEW ZEALAND.—Commercial Secretary, Office of the High Commissioner for Canada, Government Life Insurance Building, Wellington. Territory includes Fiji and Western Samoa.
- NORWAY.—Commercial Counsellor, Canadian Legation, Fridtjof Nansens Plass 5, Oslo. Territory includes Iceland.
- PAKISTAN.—Commercial Secretary, Office of the High Commissioner for Canada, Hotel Metropole, Victoria Road, Karachi. Territory includes Afghanistan and Iran.
- PERU.—Commercial Secretary, Canadian Embassy, Edificio Boza, Carabaya 831, Plaza San Martin, Lima. Territory includes Bolivia.
- PHILIPPINES.—Consul General of Canada and Trade Commissioner, Ayala Building, Juan Luna Street, Manila.
- PORTUGAL.—Commercial Counsellor, Canadian Legation, Avenida de Praia da Vitoria 48-1º D, Lisbon. Territory includes the Azores and Madeira.
- SINGAPORE.—Canadian Government Trade Commissioner, Room F-3, Union Building, Singapore. Territory includes Brunei, Burma, Federation of Malaya, North Borneo, Sarawak and Thailand.
- SOUTH AFRICA.—Canadian Government Trade Commissioner, Mutual Building, Harrison Street, Johannesburg. Territory includes Federation of Rhodesia and Nyasaland, Portuguese East Africa, Kenya, Tanganyika, Uganda and Zanzibar.
Canadian Government Trade Commissioner, Grand Parade Centre Building, Adderley Street, Cape Town. Territory includes South-West Africa, Mauritius and Madagascar.
- SPAIN.—Commercial Secretary, Canadian Embassy, Edificio España, Avenida de Jose Antonio 88, Madrid. Territory includes Balearic Islands, Canary Islands, Gibraltar, Rio de Oro, Spanish Morocco and Tangier.
- SWEDEN.—Commercial Counsellor, Canadian Legation, Strandvagen, 7-C, Stockholm. Territory includes Finland.
- SWITZERLAND.—Commercial Secretary, Canadian Embassy, Kirchenfeldstrasse 88, Berne. Territory includes Austria, Czechoslovakia and Hungary.
- TRINIDAD.—Canadian Government Trade Commissioner, Colonial Building, 72 South Quay, Port-of-Spain. Territory includes Barbados, Windward and Leeward Islands, British Guiana, Dutch Guiana, French Guiana, and French West Indies.
- UNITED KINGDOM.—Commercial Counsellor, Office of the High Commissioner for Canada, Canada House, Trafalgar Square, London, S.W.1.
Canadian Government Trade Commissioner, Martins Bank Building, Water Street, Liverpool.
Canadian Government Trade Commissioner, 36 Victoria Square, Belfast. Territory includes Northern Ireland.
- UNITED STATES.—Commercial Counsellor, Canadian Embassy, 1746 Massachusetts Ave., N.W., Washington, D.C.
Consul and Senior Trade Commissioner, Canadian Consulate General, 620 Fifth Avenue, New York, N.Y.
Consul and Trade Commissioner, Canadian Consulate General, 532 Little Building, 80 Boylston Street, Boston 16, Mass.
Deputy Consul General (commercial), Canadian Consulate General, Chicago Daily News Building, 400 West Madison Street, Chicago, Ill.
Consul of Canada and Trade Commissioner, Canadian Consulate, 1035 Penobscot Building, Detroit 26, Mich.
Consul General, Canadian Consulate General, Associated Realty Building, 510 West Sixth St., Los Angeles 14, Cal.
Consul and Trade Commissioner, Canadian Consulate, 215-217 International Trade Mart, New Orleans, La.
Consul General, Canadian Consulate General, 3rd Floor, Kohl Building, 400 Montgomery Street, San Francisco, Cal.
Consul General, Canadian Consulate General, The Tower Building, 7th Ave. at Olive Way, Seattle 1, Wash.

CANADIAN FOREIGN TRADE OFFICES ABROAD—concluded

URUGUAY.—Commercial Secretary, Canadian Embassy, Calle Colonia 1013, 7^o Piso, Montevideo. Territory includes Paraguay.

VENEZUELA.—Commercial Counsellor, Canadian Embassy, Edificio Pan American, Puente Urapal, Caracas. Territory includes Netherlands Antilles.

AGRICULTURAL REPRESENTATIVES

ARGENTINA.—Agricultural Secretary, Canadian Embassy, Bartolomé Mitré 478, Buenos Aires. Territory includes Paraguay and Uruguay.

AUSTRALIA.—Agricultural Secretary for Canada, 83 William Street, Melbourne.

NETHERLANDS.—Agricultural Secretary, Canadian Embassy, Sophialaan 1-A, The Hague. Territory includes Belgium and Luxembourg.

UNITED KINGDOM.—Commercial Secretary (Agricultural), Office of the High Commissioner for Canada, Canada House, Trafalgar Square, London, S.W.1.

UNITED STATES.—Agricultural Counsellor, Canadian Embassy, 1746 Massachusetts Avenue, N.W., Washington, D.C.

VENEZUELA.—Agricultural Secretary, Canadian Embassy, Edificio Pan American, Puente Urapal, Caracas. Territory includes Colombia.

FISHERIES REPRESENTATIVE

ITALY.—Commercial Secretary (Fisheries), Canadian Embassy, Via Saverio Mercadante 15, Rome.

TIMBER REPRESENTATIVE

UNITED KINGDOM.—Commercial Secretary (Timber), Office of the High Commissioner for Canada, Canada House, Trafalgar Square, London, S.W.1.

Commodities Branch.—The Commodities Branch is responsible for maintaining the liaison with industry and with export and import trades essential to the foreign trade promotion work of the Department. The Branch assembles trade information and data on products for use by Trade Commissioners in posts abroad, and officers of the Branch maintain contact with industry through personal visits and by exchange of correspondence with this purpose in view. Officers of the Branch follow conditions in foreign markets and supply this information for the benefit of Canadian traders.

The Branch contains commodity specialists organized in three Divisions: the Machinery and Metals Division, the Forest Products and Chemicals Division, and the Consumer Goods Division. Within these Divisions individual commodity specialists are concerned with such particular groups of products as machine tools and plant equipment, non-ferrous metals, steel, chemicals, lumber, leather and rubber, as well as a very wide range of consumer products. It is the function of the commodity specialist to call the attention of Trade Commissioners to changes in supply conditions and to products available for export, and to relay market news received from Trade Commissioners to Canadian manufacturers and exporters.

To a large extent the trade promotion work of the Branch begins at the point of finding Canadian products on which to concentrate promotional efforts. When such products are discovered, detailed reports on the products are sent to Trade Commissioners throughout the world to encourage market research and promotion. Close attention is paid to developing opportunities for promoting sales abroad of Canadian products and exporters are informed about regulations governing foreign trade.

Agriculture and Fisheries Branch.—The main functions of this Branch include: (1) trade promotion relating to agricultural and fisheries products; (2) the programming, receiving and distributing of information on foreign agriculture and fisheries; and (3) acting as a focal point for liaison on agricultural and fisheries trade matters with the Department of Agriculture, the Department of Fisheries, the Canadian Wheat Board, and other government departments and boards.

In the field of trade promotion, the Grain Division and the Food and Agriculture Division assist Canadian exporters of agricultural and fisheries products in finding markets in other countries. Canadian firms are supplied with information concerning market conditions and requirements in foreign markets, competition from other sources of supply, exchange and tariff restrictions and other related information. Canadian Trade Commissioners throughout the world are kept fully informed on such matters as production and price trends in Canada, quantities of commodities available for export and sources of supply.

The Grain Division deals specifically with matters relating to Canada's grain trade. Assistance is rendered foreign governments and other buyers in the purchase of Canadian wheat, flour and other cereals. Close contact is maintained with the flour millers as well as daily liaison with the Canadian Wheat Board.

The Commodity Officers concerned with livestock, livestock products, meat, dairy and poultry products, fruits and vegetables, and fish and fisheries products keep in contact with the trade and trade organizations dealing with these commodities. They are in close touch with the officers of other departments of government concerned with the disposition of Canadian production surplus to domestic requirements, and who are responsible for such items as health standards, grading and inspection.

A great deal of information pertaining to foreign agriculture and fisheries is received from the Canadian Trade Commissioners. This material, which reflects foreign government policy, production trends and market information, is processed in the Branch and distributed to the departments of government concerned and others interested. Much of it is published in *Foreign Trade*. The Trade Commissioner Service includes a number of officers who deal specifically with agricultural and fisheries matters. Some of these officers are located in Canada's most important export outlets and others in those countries with which Canada competes on world markets, particularly in such commodities as wheat, coarse grains, livestock, meats and dairy products. The information received from the agricultural officers and other Trade Commissioners on foreign agricultural developments is distributed in Canada through publications issued by the Economics Division of the Department of Agriculture and by direct communication with producers and exporters. Fisheries information from abroad is passed immediately to the Department of Fisheries, the provincial departments concerned, the Fisheries Council, and to fish exporters.

International Trade Relations Branch.—This Branch deals with a wide variety of current trade issues, ranging from the analysis of developments in international commercial relations to assisting in the reopening of dollar markets for Canadian products and to finding practical solutions for tariff and other difficulties encountered by Canadian exporters. The Branch has under constant review Canada's trading relations with other countries, and participates in conferences and negotiations under the General Agreement on Tariffs and Trade. In addition the Branch is concerned with the effects of the work of such international organizations as the Organization for European Economic Co-operation on Canadian and world trade.

Trade treaties are under continuous examination by the Branch, which is responsible for the preparation of material for trade and tariff negotiations with other countries. Material is collected on foreign tariffs, customs legislation, taxes affecting trade, import licensing, exchange regulations, documentation, sanitation, marking and labelling requirements, and measures pertaining to quotas, embargoes and other import restrictions. These data are analysed, interpreted, clarified and made available in easily comprehensible form to exporters, government officials and other export interests.

Exporters who encounter difficulties resulting from the trade policies or regulations of other countries are given expert advice and interpretations of foreign regulations. Also the Branch initiates official consultations with other governments respecting such problems.

Economics Branch.—The Economics Branch maintains a continuous review of business conditions in Canada and conducts special studies on particular industries or on any aspect of Canada's economic development as required. Aspects of the general economic situation considered include foreign trade, investment, consumption, production, prices, incomes and employment, as well as conditions in industries and localities.

Industrial Development Branch.—This Branch co-ordinates the assistance offered by the Federal Government in the establishment of new industries in Canada. Acting in this capacity, information is provided on a multiplicity of matters pertaining to industry establishment. The Branch assists also in solving the variety of problems encountered by Canadian and foreign businessmen. It also aids those established firms that wish to expand into new lines of production. Inquiries from foreign firms and individuals regarding the manufacture of products in Canada under licence or royalty are screened and brought to the attention of Canadian manufacturers interested in producing additional items.

The Branch acts in an advisory capacity to the Immigration Branch of the Department of Citizenship and Immigration regarding the admission of individuals, other than those from Commonwealth countries and the United States, who wish to establish new industries in Canada. It also works in close co-operation with a widespread network of organizations throughout Canada, including industrial development departments of the provinces, municipalities, railways, banks, power companies, chambers of commerce, boards of trade, and the Canadian Manufacturers' Association.

Information Branch.—The principal function of the Information Branch is to furnish the commercial community of Canada with information concerning the assistance that exporters and importers may obtain from the Department of Trade and Commerce. The Branch is responsible also for stimulating a better appreciation by the general public of the importance of trade to the welfare of Canada. The attention of exporters and potential exporters is directed to opportunities for the disposal of their products in markets abroad, and of importers to the sources of supply for raw materials and consumer goods unobtainable in Canada. Its principal educational and informative medium is *Foreign Trade*, fortnightly publication of the Foreign Trade Service, in which are reproduced reports of Canadian Trade Commissioners on conditions in their respective territories, articles by Head Office personnel and economists of the Dominion Bureau of Statistics, news items and charts portraying trade trends. Press releases are prepared and distributed to newspapers at home, and material of similar character dispatched to Canadian Trade Commissioners for distribution to newspapers abroad. Pamphlets and brochures are prepared to supplement other information on foreign markets, sources of supply, documentation, regulations and trade restrictions. Assistance is rendered to correspondents of newspapers and periodicals at home and abroad in the preparation of articles pertaining to various phases of Canada's foreign trade. The educational and promotional work of this Branch is supported by moderate advertising at home and abroad through the daily press, periodicals and trade papers, and by films and radio.

Canadian Government Exhibition Commission.—The Canadian Government Exhibition Commission publicizes Canada by graphic media of all kinds and helps to sell Canadian products abroad. The Commission is solely responsible for the construction and administration of Federal Government exhibits at international expositions, trade fairs and displays outside Canada and of international trade fairs in Canada sponsored by the Government of Canada. The Commission also co-operates with Canadian exporters in securing representation for goods at trade fairs and trade promotional displays, and is equipped to advise individual Canadian companies in the preparation of exhibits. It distributes at its various presentations literature produced by other government departments and agencies.

Export Credits Insurance Corporation.—The Export Credits Insurance Corporation was established under the provisions of the Export Credits Insurance Act 1944 (amended in 1946, 1948 and 1954). The Corporation, which is administered by a Board

of Directors including the Deputy Minister of Trade and Commerce, the Deputy Minister of Finance and the Governor of the Bank of Canada, insures exporters against losses arising from credit and political risks involved in the export or in an agreement for the export of goods. Policies are generally issued on a yearly basis, covering exporters' sales to all countries. The main risks covered include: insolvency or protracted default on the part of the buyer; exchange restrictions in the buyer's country preventing the transfer of funds to Canada; cancellation of an import licence or the imposition of restrictions on the importation of goods not previously subject to restrictions; the occurrence of war between the buyer's country and Canada, or of war, revolution, etc., in the buyer's country.

The insurance is available under two main classifications—general commodities and capital goods. Coverage for general commodities can be procured by exporters under two types of policies:

(1) the Contracts Policy, which insures an exporter against loss from the time he books the order until payment is received; or (2) the Shipments Policy, obtainable at lower rates of premium and covering the exporter from the time of shipment until payment is received.

Insurance of capital goods offers protection to exporters dealing in plant equipment, heavy machinery, etc., where extended credit for lengthy periods is often necessary. Specific policies are issued for transactions involving capital goods but the general terms and conditions are the same as those applicable to policies for general commodities. The Corporation insures exporters on a co-insurance basis up to a maximum of 85 p.c. of the gross invoice value of shipments. This co-insurance basis also operates in the distribution of recoveries obtained after payment of a loss, and these recoveries are shared by the Corporation and the exporter in the proportions of 85 and 15 p.c. respectively.

The Corporation, from its inception to Dec. 31, 1954, issued policies covering a total value of \$498,828,879, under which insured export sales were \$272,762,845. Premiums paid totalled \$2,577,078, and gross claims paid to exporters during the same period amounted to \$4,412,654. A large majority of these claims resulted from exchange transfer difficulties with relatively few arising from insolvencies. Recoveries made amounted to \$2,821,088. The excess of premiums over operating expenses and net losses was \$196,294 and this sum, together with interest of \$2,340,050 earned on invested capital, has been added to the underwriting reserve which on Dec. 31, 1954 stood at \$2,529,178.

International Economic and Technical Co-operation Division.—The administration of Canada's participation in the Colombo Plan, a Commonwealth effort to help the peoples of South and Southeast Asia to raise their standards of living and productivity, is the responsibility of this Division. This contribution is of two types—capital aid and technical co-operation. Under capital assistance, grants of goods or services are made to countries in the area on a government-to-government basis. Technical co-operation embraces the training of Asian peoples in a variety of fields in Canada and the supplying of Canadian technical and professional personnel to advise and instruct abroad. The Division also assists the United Nations and its specialized agencies in the recruiting of technical experts and in the arrangement of courses of instruction for trainees sent to Canada for study. For the year ended Mar. 31, 1955, \$26,400,000 was voted by Parliament for Colombo Plan capital aid and technical assistance.

Section 2.—The Development of Tariffs

A short sketch of trade and tariffs prior to Confederation is given in the 1940 Year Book, pp. 480-482. The 1942 Year Book, pp. 427-428, traces the development from Confederation to the adoption in 1904 of the present form of preferential tariff.

Limitations of space in the Year Book has made it necessary, in regard to tariffs, to adopt the policy of confining any detail regarding commodities and countries to tariff relationships in force at present and to summarize as much as possible historical data and details of preceding tariffs, giving references to those editions of the Year Book where extended treatments may be found.

Subsection 1.—The Canadian Tariff Structure*

The Canadian Tariff consists, in the main, of three sets of tariffs rates—British Preferential, Most-Favoured-Nation and General.

British Preferential Tariff rates are, with some exceptions, the lowest rates. They are applied to imported dutiable commodities shipped direct to Canada from countries of the Commonwealth and from the British colonies and other dependent overseas territories. Some Commonwealth countries have trade agreements with Canada which provide for rates of duty, on certain specified goods, lower than the British Preferential rates.

Most-Favoured-Nation rates are usually higher than the British Preferential rates and lower than the General Tariff rates. They are applied to commodities imported from countries outside the Commonwealth with which Canada has made trade agreements. The most important trade agreement concerning the effective rates applied to goods imported from countries entitled to Most-Favoured-Nation rates is the General Agreement on Tariffs and Trade.

General Tariff rates are applied to goods imported from the few countries with which Canada has not made trade agreements.

There are numerous goods which are duty free under the British Preferential Tariff, or under both the British Preferential and Most-Favoured-Nation Tariff, or under all Tariffs.

Valuation.—Sect. 35 of the Customs Act provides that, when any *ad valorem* duty is imposed, the valuation of the goods for purposes of calculating the duty basically "shall be the fair market value, at the time when and place from which the goods were shipped to Canada, of like goods when sold in like quantities for home consumption in the ordinary course of trade under fully competitive conditions and under comparable conditions of sale" or "the amount for which the goods were sold by the vendor abroad to the purchaser in Canada, exclusive of all charges thereon after their shipment from the place from which they were exported direct to Canada", whichever is the greater. There are further provisions for determining the value for duty when the fair market value, in accordance with the foregoing, cannot be ascertained. Internal taxes in the country of export (when not incurred on exported goods), the cost of shipping the goods to Canada, and similar charges however are not included in the value for duty.

Dumping.—Sect. 6 of the Customs Tariff provides that when the actual selling price of goods being imported is less than their fair market value and the goods are of a class or kind made or produced in Canada, a special or dumping duty shall be collected. This duty is to be equal to the difference between the actual selling price and the fair market value of the goods, except that it may not be more than 50 p.c. of the value for duty. These provisions are designed to offset the advantage foreign exporters may achieve by exporting to Canada at less than the going prices.

Drawback.—There are provisions in the Customs and Excise Tax Acts for the repayment of a portion of the duty, sales and/or excise taxes paid on imported goods used in the manufacture of products later exported. The purpose of these drawbacks (as these repayments are called) is to assist Canadian manufacturers to compete in foreign markets with foreign producers of similar goods. A second class of drawback, known as "home consumption" drawbacks, is provided for under the Customs Tariff Act and applies to imported materials and/or parts used in the production of specified goods to be consumed in Canada.

The Tariff Board.—The Tariff Board, constituted by the Tariff Board Act 1931, consists of three members, one of whom is chairman and another vice-chairman. The duties and powers of the Board derive from three Statutes of Canada: the Tariff Board Act, the Customs Act, and the Excise Tax Act.

*The schedules and rates in force at any particular time may be obtained from the Department of National Revenue, Ottawa, which is responsible for administering the Canadian Tariff.

Under the Tariff Board Act, the Board makes inquiry into and reports upon any matter in relation to goods that, if brought into Canada or produced in Canada, are subject to or exempt from duties of customs or excise and on which the Minister of Finance desires information. The investigation into any such matter may include inquiry as to the effect that an increase or decrease of the existing rate of duty upon a given commodity might have upon industry or trade and the extent to which the consumer is protected from exploitation. It is also the duty of the Board to inquire into any other matter in relation to the trade and commerce of Canada that the Governor in Council sees fit to refer to the Board for inquiry and report. Usually the references take one of two forms: authority for review of sections of the Customs Tariff relating to an entire industry, or for investigation in respect of specified commodities. Reports are tabled in Parliament.

Under the provisions of the Customs Act and the Excise Tax Act, the Tariff Board acts as a court to hear appeals from rulings of the Department of National Revenue in respect of matters of administration including those of excise taxes, tariff classification, value for duty, and drawback of customs duties. Declarations of the Board on appeals on questions of fact are final and conclusive, with provision for appeal on questions of law to the Exchequer Court of Canada. Tariff references and appeals receive public hearings at which interested parties submit oral statements and written briefs relating to matters under consideration.

Subsection 2.—Tariff and Trade Arrangements with Other Countries as at Oct. 1, 1955

Canada's tariff arrangements with other countries fall into three main categories: trade agreements with a number of Commonwealth countries; the General Agreement on Tariffs and Trade (GATT); and other agreements and arrangements.

The Commonwealth countries with which Canada has trade agreements are as follows: Australia, British West Indies, Ceylon, Ireland, New Zealand, Union of South Africa and the United Kingdom and Colonies. A preferential arrangement is also in force with respect to the Federation of Rhodesia and Nyasaland and preferences are accorded by Canada to India and Pakistan. These agreements and arrangements have been modified and supplemented by the GATT.

Canada exchanges most-favoured-nation treatment with 34 countries under the General Agreement on Tariffs and Trade. The Protocol of Provisional Application of the General Agreement on Tariffs and Trade was signed by Canada on Oct. 30, 1947 and brought the Agreement provisionally into force on Jan. 1, 1948.

The GATT is a multilateral trade Agreement and the concessions negotiated under it apply equally to all signatories. All GATT signatories exchange most-favoured-nation treatment. The Agreement consists of three parts: the general provisions related to the schedules of tariff concessions and the exchange of most-favoured-nation treatment; the provisions relating to commercial policy; and the administrative provisions.

Under the new system of multilateral tariff negotiations initiated under the GATT, four general rounds of negotiations have taken place: at Geneva, Switzerland, in 1947; at Annecy, France, in 1949; at Torquay, England, in 1950-51; and again at Geneva in 1955. The tariff concessions Canada granted and received at the first Geneva Conference are described in the 1948-49 Year Book, pp. 875-877, and those negotiated at Annecy are discussed in the 1950 Year Book, pp. 968-970. The Torquay negotiations were discussed in the 1952-53 edition, pp. 996-997. The existing tariff concessions remain in force until Jan. 1, 1958 and thereafter unless modified in accordance with the terms of the Agreement.

Canada already had most-favoured-nation trade agreements with a number of GATT members prior to the effective date of the General Agreement. These agreements with individual countries continue in force in conjunction with the General Agreement. As an exception however the Canada-U.S. Trade Agreement of 1938 is suspended for so long as both countries continue to be contracting parties to GATT.

**Tariff and Trade Arrangements with Commonwealth Countries as at
Oct. 1, 1955**

Country	Agreement	Principal Terms
AUSTRALIA.....	Trade Agreement signed July 8, 1931; in force Aug. 3, 1931. GATT effective Jan. 1, 1948.	Agreement includes schedules of tariff rates and exchange of British preferential rates on items not scheduled. May be terminated on six months notice.
BRITISH WEST INDIES (BARBADOES, BARRADOS, BRITISH HONDURAS, JAMAICA, LEEWARD AND WINDWARD ISLANDS, TRINIDAD AND TOBAGO), BERMUDA AND BRITISH GUIANA.	Trade Agreement signed July 6, 1925, in force Apr. 30, 1927; Canadian notice of termination of Nov. 23, 1938 was replaced by notice of Dec. 27, 1939 which continued the Agreement. The British West Indies, with the exception of Jamaica, are contracting parties to GATT.	The parties exchange specified tariff preferences. Agreement may be terminated on six months notice.
CEYLON.....	Ceylon is a party to the Trade Agreement of 1937 between United Kingdom and Canada. GATT effective July 29, 1948.	Canada and Ceylon exchange preferential tariff treatment.
INDIA.....	Since 1897 Canada has unilaterally accorded British preferential treatment to India but without contractual obligation. GATT effective July 8, 1948.	In addition to preferences granted to India, most-favoured-nation treatment is exchanged under GATT.
IRELAND.....	Trade Agreement signed Aug. 20, 1932; in force Jan. 2, 1933.	Canada grants British preferential tariff in return for preferential rates where such exist and for most-favoured-nation rates on non-preferential items. May be terminated on six months notice.
NEW ZEALAND.....	Trade Agreement signed Apr. 23, 1932; in force May 24, 1932. GATT effective July 26, 1948.	The parties exchange specific preferences on scheduled goods and reciprocally concede British preferential rates on items not scheduled. May be terminated on six months notice.
PAKISTAN.....	Canada unilaterally accords Pakistan British preferential treatment but without contractual obligation. GATT effective July 30, 1948.	In addition to preferences granted to Pakistan, most-favoured-nation treatment is exchanged under GATT.
FEDERATION OF RHODESIA AND NYASALAND.	Northern Rhodesia and Nyasaland are parties to Agreement of 1937 between Canada and United Kingdom; an Agreement of 1932 between Canada and Southern Rhodesia expired in 1938, but the tariff treatment provided therein continues to be reciprocally accorded. GATT effective in Southern Rhodesia May 19, 1948; extended to whole Federation, Oct. 29, 1954.	Canada exchanges preferential tariffs with Northern and Southern Rhodesia. Canada accords Nyasaland the British preferential rates.
UNION OF SOUTH AFRICA....	Trade Agreement signed Aug. 20, 1932; in force Oct. 13, 1932.	Agreement includes schedules of tariff preferences granted by each country. May be terminated on six months notice.

**Tariff and Trade Arrangements with Commonwealth Countries as at
Oct. 1, 1955—concluded**

Country	Agreement	Principal Terms
UNION OF SOUTH AFRICA— concluded.	Exchange of notes Aug. 2-31, 1935; effective retroactive from July 1, 1935. GATT effective June 14, 1948.	Exchange of most-favoured-nation treatment. May be terminated on six months notice.
UNITED KINGDOM.....	Trade Agreement signed Feb. 23, 1937; in force Sept. 1, 1937. Modified by an exchange of letters of Nov. 16, 1938, and an exchange of notes Oct. 30, 1947. GATT effective Jan. 1, 1948.	Various concessions by both countries including exchange of preferential tariff rates (some minor reservations by Canada). Extends to Colonies.

**Tariff and Trade Arrangements with Non-Commonwealth Countries as at
Oct. 1, 1955**

Country	Agreement	Principal Terms
ARGENTINA.....	Trade Agreement signed Oct. 2, 1941; provisionally in force Nov. 15, 1941.	Exchange of most-favoured-nation treatment. Provisional application may be terminated on three months notice.
AUSTRIA.....	GATT effective Oct. 19, 1951.	Exchange of most-favoured-nation treatment.
BELGIUM-LUXEMBOURG....	Convention of Commerce with Belgium (including Luxembourg and Belgian colonies) entered into effect Oct. 22, 1924. GATT effective Jan. 1, 1948.	Exchange of most-favoured-nation treatment. May be terminated on one year's notice.
BOLIVIA.....	Order in Council of July 20, 1935, accepted Article 15 of the United Kingdom — Bolivia Treaty of Commerce of Aug. 1, 1911.	Exchange of most-favoured-nation treatment. May be terminated on one year's notice.
BRAZIL.....	Trade Agreement signed Oct. 17, 1941; provisionally in force from date of signing and definitively on Apr. 16, 1943. GATT effective July 31, 1948.	Exchange of most-favoured-nation treatment. May be terminated on six months notice.
BURMA.....	GATT effective July 29, 1948.	Exchange of most-favoured-nation treatment.
CHILE.....	Trade Agreement signed Sept. 10, 1941; provisionally in force Oct. 15, 1941 and definitively on Oct. 29, 1943. GATT effective Mar. 16, 1948.	Exchange of most-favoured-nation treatment. May be terminated on six months notice.
CHINA.....	<i>Modus vivendi</i> signed Sept. 26, 1946; in effect since Sept. 28, 1946. China withdrew from GATT on May 5, 1950.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
COLOMBIA.....	Treaty of Commerce with United Kingdom of Feb. 16, 1866, applies to Canada. Modified by protocol of Aug. 20, 1912, and exchange of notes Dec. 30, 1938. A Trade Agreement between Colombia and Canada was signed Feb. 20, 1946, but has not been put into force.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.

**Tariff and Trade Arrangements with Non-Commonwealth Countries as at
Oct. 1, 1955—continued**

Country	Agreement	Principal Terms
COSTA RICA.....	<i>Modus vivendi</i> signed Nov. 18, 1950; brought into force Jan. 26, 1951.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
CUBA.....	GATT effective Jan. 1, 1948.	Exchange of most-favoured-nation treatment (excluding preferences accorded by Cuba to the United States).
CZECHOSLOVAKIA.....	Convention of Commerce signed Mar. 15, 1928; in force Nov. 14, 1928. GATT effective May 21, 1948.	Exchange of most-favoured-nation treatment. May be terminated on one year's notice.
DENMARK (including GREENLAND).	Treaties of Peace and Commerce with United Kingdom of Feb. 13, 1660 and July 11, 1670 apply to Canada. GATT effective May 28, 1950.	Exchange of most-favoured-nation treatment. Declaration of May 9, 1912 provides means for separate termination by Dominions on one year's notice.
DOMINICAN REPUBLIC.....	Trade Agreement signed Mar. 8, 1940; in force provisionally Mar. 15, 1950, and definitively Jan. 22, 1941. GATT effective May 19, 1950.	Exchange of most-favoured-nation treatment including scheduled concessions. May be terminated on six months notice.
ECUADOR.....	<i>Modus vivendi</i> signed Nov. 10, 1950; in force Dec. 1, 1950.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
EGYPT.....	Exchange of notes Nov. 26 and Dec. 3, 1952; in force Dec. 3, 1952.	Exchange of most-favoured-nation rates. May be terminated on six months notice.
EL SALVADOR.....	Exchange of notes of Nov. 2, 1937; in force Nov. 17, 1937.	Exchange of most-favoured-nation treatment. May be terminated on four months notice.
ETHIOPIA.....	Exchange of notes effective June 3, 1955.	Exchange of most-favoured-nation treatment.
FINLAND.....	Exchange of notes of Nov. 13-17, 1948; effective Nov. 17, 1948. GATT effective May 25, 1950.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
FRANCE AND FRENCH OVERSEAS TERRITORIES.	Trade Agreement signed May 12, 1933; in force June 10, 1933. Exchange of notes of Sept. 29, 1934, and additional protocol of Feb. 26, 1935. GATT effective Jan. 1, 1948.	Exchange of most-favoured-nation treatment including scheduled concessions. May be terminated on three months notice.
WESTERN GERMANY.....	GATT effective Oct. 1, 1951.	Exchange of most-favoured-nation treatment.
GREECE.....	<i>Modus vivendi</i> by exchange of notes of July 24-28, 1947; effective Aug. 28, 1947. GATT effective Mar. 1, 1950.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
GREENLAND.....	(See Denmark.)	
GUATEMALA.....	Trade Agreement signed Sept. 28, 1937; in force Jan. 14, 1939.	Exchange of most-favoured-nation treatment. May be terminated on six months notice.

**Tariff and Trade Arrangements with Non-Commonwealth Countries as at
Oct. 1, 1955—continued**

Country	Agreement	Principal Terms
HAITI.....	Trade Agreement signed Apr. 23, 1937; in force Jan. 10, 1939. GATT effective Jan. 1, 1950.	Exchange of most-favoured-nation treatment. May be terminated on six months notice.
ICELAND.....	Although there is no contractual obligation, Canada and Iceland adhere to the terms of a treaty originally concluded between Denmark and the United Kingdom on Feb. 13, 1660.	Exchange of most-favoured-nation treatment.
INDONESIA.....	GATT effective Mar. 1, 1948.	Exchange of most-favoured-nation treatment.
IRAN.....	Special arrangement by Order in Council effective Feb. 1, 1951.	Canada grants most-favoured-nation tariff rates as long as Iran accords reciprocal treatment.
IRAQ.....	Special arrangement by Order in Council effective Sept. 15, 1951.	Canada grants and receives most-favoured-nation tariff rates.
ISRAEL.....	Canada-United Kingdom Agreement of 1937 applied under the British Palestine Mandate.	Since the creation of the State of Israel in May 1948 Canada has continued to grant most-favoured nation rates.
ITALY.....	<i>Modus vivendi</i> by exchange of notes of Apr. 23-28, 1948; effective Apr. 28, 1948. GATT effective Jan. 1, 1950.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
JAPAN.....	Agreement on Commerce signed Mar. 31, 1954; effective June 7, 1954. GATT effective Sept. 10, 1955.	Exchange of most-favoured-nation treatment. Remains in force for one year from ratification and thereafter unless terminated on three months notice.
LEBANON.....	Special arrangement by Order in Council of Nov. 19, 1946. Lebanon withdrew from GATT Mar. 1, 1951.	Canada grants most-favoured-nation tariff rates as long as Lebanon accords reciprocal treatment.
LIBERIA.....	Special arrangement by Order in Council of June 3, 1955. Liberia withdrew from GATT June 1, 1953.	Canada grants most-favoured-nation tariff rates as long as Liberia accords reciprocal treatment.
LIECHTENSTEIN.....	(See Switzerland.)	
LUXEMBOURG.....	(See Belgium.)	
MEXICO.....	Trade Agreement signed Feb. 8, 1946; in force provisionally same date. Ratifications exchanged on May 6, 1947; definitively in force 30 days from that date.	Exchange of most-favoured-nation treatment. May be terminated on six months notice.
NETHERLANDS.....	Convention of Commerce of July 11, 1924. Suspended during war; reinstated by exchange of notes Feb. 1 and 5, 1946. Includes Netherlands Antilles and Surinam. GATT effective Jan. 1, 1948.	Exchange of most-favoured-nation treatment. May be terminated on one year's notice.

**Tariff and Trade Arrangements with Non-Commonwealth Countries as at
Oct. 1, 1955—continued**

Country	Agreement	Principal Terms
NICARAGUA.....	Trade Agreement signed Dec. 19, 1946; in force provisionally same date. GATT effective May 28, 1950.	Exchange of most-favoured-nation treatment. Provisional application may be terminated on three months notice.
NORWAY.....	Convention of Commerce and Navigation with United Kingdom of Mar. 18, 1826, applied to Canada. GATT effective July 10, 1948.	Exchange of most-favoured-nation treatment. Convention of May 16, 1913 provides means for separate termination by Dominions on one year's notice.
PANAMA.....	Order in Council of July 20, 1935, accepted Article 12 of United Kingdom—Panama Treaty of Commerce of Sept. 25, 1928. Treaty terminated in 1942.	While contractual obligation has expired Canada and Panama continue to exchange most-favoured-nation treatment.
PARAGUAY.....	Exchange of notes of May 21, 1940; in force June 21, 1940.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
PERU.....	GATT effective Oct. 8, 1951.	Exchange of most-favoured-nation treatment.
PHILIPPINES.....	No agreement at present. United States—Canada Agreement of 1938 (now suspended) applied to Philippines until Philippines attained independence in 1946. Participated in Torquay negotiations but has not yet (Oct. 1, 1955) become a Contracting Party to GATT.	Canada and Philippines continue to exchange most-favoured-nation treatment but without contractual obligation.
POLAND.....	Convention of Commerce signed July 3, 1935; in force Aug. 15, 1936.	Exchange of most-favoured-nation treatment including scheduled reductions. May be terminated on three months notice.
PORTUGAL, PORTUGUESE ADJACENT ISLANDS AND PORTUGUESE OVERSEAS PROVINCES.	Trade Agreement signed May 28, 1954, provisionally in effect July 1, 1954, definitively in force on ratification Apr. 29, 1955.	Exchange of most-favoured-nation treatment. Remains in effect for two years from ratification and thereafter unless terminated on three months notice.
SPAIN AND SPANISH POSSESSIONS.	Since Aug. 1, 1928 Canada has adhered to the United Kingdom—Spain Treaty of Commerce of Oct. 31, 1922. Trade Agreement signed May 26, 1954, provisionally in effect July 1, 1954, definitively in force on ratification June 30, 1955.	Exchange of most-favoured-nation treatment. May be terminated on six months notice. Supplements and amends United Kingdom—Spanish Treaty of Commerce. Remains in effect for three years from ratification, and thereafter unless terminated on three months notice.
SWEDEN.....	United Kingdom—Sweden Convention of Commerce and Navigation of Mar. 18, 1826, applies to Canada. GATT effective May 1, 1950.	Exchange of most-favoured-nation treatment. Declaration of Nov. 27, 1911, provides means for separate termination by Dominions on one year's notice.

**Tariff and Trade Arrangements with Non-Commonwealth Countries as at
Oct. 1, 1955—concluded**

Country	Agreement	Principal Terms
SWITZERLAND.....	United Kingdom — Switzerland Treaty of Friendship, Commerce and Reciprocal Establishment of Sept. 6, 1855 applies to Canada. By exchange of notes Liechtenstein included under terms of this agreement, effective Aug. 2, 1947.	Exchange of most-favoured-nation treatment. Convention of Mar. 30, 1914, provides means for separate termination by the Dominions on one year's notice.
SYRIA.....	Special Arrangement by Order in Council of Nov. 19, 1946. Syria withdrew from GATT Aug. 6, 1951.	Canada grants most - favoured - nation tariff rates as long as Syria accords reciprocal treatment.
TURKEY.....	Exchange of notes signed Mar. 1, 1948; in effect Mar. 15, 1948. GATT effective Oct. 17, 1951.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
UNITED STATES.....	Trade Agreement signed Nov. 17, 1938; suspended as long as both countries continue to be contracting parties to GATT. GATT effective Jan. 1, 1948.	Most-favoured - nation treatment exchanged under 1938 agreement is continued under GATT.
URUGUAY.....	Trade Agreement signed Aug. 12, 1936; in force May 15, 1940. Additional Protocol signed Oct. 19, 1953, not ratified at Oct. 1, 1955. GATT effective Dec. 16, 1953.	Exchange of most-favoured-nation treatment. May be terminated on six months notice.
VENEZUELA.....	<i>Modus vivendi</i> signed and brought into force Oct. 11, 1950; renewed each year.	Exchange of most-favoured-nation treatment. Made for one year subject to annual renewal.
YUGOSLAVIA.....	Trade Agreements Act of June 11, 1928, accepted Article 30 of United Kingdom - Serb - Croat - Slovene Treaty of Commerce and Navigation of May 12, 1927; in force Aug. 9, 1928.	Exchange of most-favoured-nation treatment. May be terminated on one year's notice.

CHAPTER XXIII.—PRICES*

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Section 1.—Index Numbers of Wholesale Prices

Wholesale prices are not restricted in this Chapter to the normal meaning of that word but may be loosely defined as including all prices paid in commercial transactions in goods, except for prices received by retailers for goods sold to consumers. Within this broad group, indexes for numerous sub-classifications are available such as those for component materials, degree of manufacture and special purpose series. Wholesale price indexes, as well as indicating price dispersion between commodities and groups of commodities, are frequently sensitive to changing conditions and have been used to anticipate retail price movements, such as the increase that followed the outbreak of hostilities in Korea in 1950.

The series of wholesale price index numbers related to the base period 1935-39 was introduced in January 1951. Background material concerning the construction of this index is available in DBS Reference Paper No. 24, *Wholesale Price Indexes 1913-1950*. The source of current price information is the DBS monthly publication *Prices and Price Indexes* which includes wholesale prices, retail prices, security prices and exchange rates. Historical data are presented in considerable detail in *Prices and Price Indexes 1949-1952*. The general wholesale price index is available from 1867.

The purpose of wholesale price index number construction is to provide an indicator of changes in the level of prices by comparing the aggregate cost of a bill of goods at one period with the aggregate cost of the same goods at other dates; this is accomplished by expressing the price of a commodity as a relative (the price at a given date or for a given period serving as a base equalling 100) and then combining all commodity relatives together so that each reflects its importance in all transactions. This operation is known as weighting and in the wholesale index the weights for each commodity are the values of quantities marketed (sales—domestic and export, plus imports) in the base period. The movement of the total index is thus determined by the movements of individual commodity price relatives whose effect on the total index is, in turn, determined by their respective weights.

* Revised in the Prices Section, Labour and Prices Division, Dominion Bureau of Statistics.

The principal source of basic price material is industrial firms, the majority of prices being collected by mail. As the objective is to measure pure price change unaffected by such factors as quality change and size of shipment, detailed specifications for price quotes are provided on the mailed schedules. Price movements which result from a changed basis of quotation, such as f.o.b. to c.i.f., are thus eliminated.

General wholesale price indexes have been calculated by most countries for many years but the question "What does a general wholesale price index measure?" cannot be given a precise answer. A retail price index can be identified with consumer expenditure, but a general wholesale index covers a much wider range; yet it is not a measure of the purchasing power of money since it does not include prices of land, labour, securities or services, except in so far as prices of these things enter into commodity prices. As a conventional summary figure its use has tended toward a reference level against which to observe the behaviour of particular price groups such as farm products, raw materials and building materials. Thus special wholesale groupings and commodity price relatives are now considered to be of greater importance than the general index itself.

Component indexes and individual price series have numerous uses. One of the most important is in escalator contracts which contain a price adjustment clause. Other major uses include: studies of replacement and construction costs in investment projects; analysis of price movements of both individual items and commodity groups in relation to purchases and sales; industrial planning and market analysis; valuation for tax purposes and inventory analysis; and studies in changes of physical volume. Business firms abroad use them in connection with sales and purchases in Canada.

Demands resulting from hostilities in Korea caused sharp advances in wholesale prices in late 1950. The general wholesale index reached 243.7 in July 1951, an alltime peak. The trend reversed in the latter part of the year reflecting declines in animal products and textile products. This downward movement continued until October 1952 and ensuing movements were fractional until the index receded to 219.5 in April 1953. Weakness continued to be felt most strongly in primary and secondary farm products. Lumber prices were also easier, particularly West Coast descriptions, while fibres, textiles and textile products receded slowly.

In general, 1954 was a relatively stable year for wholesale price movements although the general index exhibited a slow decline throughout most of the year, reaching a low of 214.3 in October and registering 215.4 in December. Diverse movements occurred in component groups during 1954: animals and animal products fell about 10 p.c. from a level of 245.0 in June to 221.8 in October caused mainly by the downward price movement of livestock and related meat prices; fibres, textiles and textile products also exhibited a general price decrease but wood, wood products and paper, and non-ferrous metals and their products began a steady increase. Noteworthy were the advances in cedar and fir, zinc and its products and solder and lead and its products.

The year 1955 was the first in which wholesale prices showed any strength since the end of the inflation associated with war in Korea. The steady decline from the July 1951 peak was reversed throughout 1955 as the index moved upward from the October 1954 low point. Between December 1954 and December 1955 the general wholesale index advanced 2.8 p.c.; non-ferrous metals, iron products, and wood products show increases of 17.6, 7.2 and 5.0 p.c. respectively while farm products continued to decline. In general terms, non-farm prices increased on average about 6 p.c. over the year and farm prices declined about 7 p.c.

1.—Annual Index Numbers of Wholesale Price Groups 1946-55 and Monthly Indexes 1954 and 1955

(1935-39=100)

Year and Month	General Wholesale	Raw and Partly Manufactured Goods	Fully and Chiefly Manufactured Goods	Industrial Materials	Canadian Farm Products ¹		
					Field	Animal	Total
1946.....	138.9	140.1	138.0	148.6	177.9	181.2	179.5
1947.....	163.3	164.3	162.4	187.0	184.1	200.2	192.2
1948.....	193.4	196.3	192.4	222.7	200.6	263.7	232.1
1949.....	198.3	197.1	199.2	218.0	191.9	265.4	228.7
1950.....	211.2	212.8	211.0	244.6	191.9	281.4	236.7
1951.....	240.2	237.9	242.4	296.1	200.4	336.9	268.6
1952.....	226.0	218.7	230.7	252.6	223.0	277.5	250.2
1953.....	220.7	207.0	228.8	232.3	179.4	263.8	221.6
1954.....	217.0	204.8	224.2	223.7	170.9	256.2	213.6
1955.....	218.9	209.7	224.5	236.0	174.4	245.1	209.7
1954							
January.....	219.8	206.5	227.8	224.1	159.4	266.3	212.9
February.....	219.0	205.1	227.3	223.6	160.0	264.7	212.3
March.....	218.6	204.3	226.9	222.8	158.3	262.0	210.2
April.....	217.9	205.7	225.1	223.9	157.6	260.4	209.0
May.....	218.2	207.5	224.5	224.2	158.2	268.0	213.1
June.....	217.8	206.7	224.5	223.9	158.9	267.3	213.1
July.....	217.4	207.4	223.6	224.2	173.6	262.1	217.8
August.....	215.8	204.9	222.3	222.5	183.8	248.2	216.0
September.....	215.3	202.9	222.6	222.7	178.9	245.5	212.2
October.....	214.3	201.4	221.8	223.6	178.1	240.5	209.3
November.....	214.9	202.3	222.3	224.4	180.4	243.1	211.8
December.....	215.4	203.5	222.4	224.4	179.8	245.9	212.9
1955							
January.....	215.8	205.0	222.2	225.7	180.8	248.3	214.6
February.....	217.3	207.6	223.1	228.9	182.8	245.6	214.2
March.....	217.3	206.3	223.9	229.9	181.3	241.3	211.3
April.....	218.5	210.4	223.5	233.1	202.0	238.7	220.3
May.....	217.8	209.5	223.1	233.2	198.5	243.4	220.9
June.....	218.7	210.2	224.0	236.2	189.4	250.0	219.7
July.....	218.4	210.1	223.6	237.1	185.2	249.5	217.4
August.....	219.7	210.7	225.4	240.9	159.0	250.6	204.8
September.....	220.9	212.2	226.4	241.1	153.9	251.6	202.7
October.....	220.0	210.8	225.8	240.7	151.7	241.9	196.8
November.....	220.7	211.3	226.6	240.8	153.2	240.5	196.9
December.....	221.5	212.6	226.7	244.2	155.2	239.4	197.3

¹ Wheat prices used in this index are Canadian Wheat Board buying prices for Nos. 1, 2 and 3 Manitoba Northern at Fort William-Port Arthur. The initial payment is first used and the index revised as further payments are announced. Between August 1945 and July 1950 the price included for No. 1 Manitoba Northern was \$1.83 per bu. while for subsequent crop years the price per bu. was as follows: 1950-51, \$1.85; 1951-52, \$1.83; 1952-53, \$1.82; 1953-54, \$1.56; and 1954-55, \$1.65, for which year the final payment was announced on May 22, 1956. For the crop year 1955-56 the index is based on an initial payment price of \$1.40 and is subject to revision subsequent to July 1955. Western oats and barley were brought under control of the Canadian Wheat Board Aug. 1, 1949. Since then prices used for Canadian Farm Products have been initial payments to farmers, with participation payments included whenever they are announced.

Index Numbers of Building Materials Prices.—Price movements of materials entering into building construction are currently measured by two special purpose series: price index numbers of residential building materials and price index numbers of non-residential building materials* for which the base years are 1935-39 and 1949 respectively. Details of weighting and construction and historical series may be found in the special bulletins† prepared at the time the indexes were first published. More recently the composite indexes have been calculated on an annual basis back to 1913; current indexes are published monthly in DBS Bulletin *Prices and Price Indexes*.

* Exclusive of engineering structures such as power dams, roads, railroads and bridges.

† *Price Index Numbers of Residential Building Materials 1926 to 1948* and DBS Reference Paper No. 43, *Non-Residential Building Materials Price Index 1935-1952*.

Tables 2 and 3 show annual composite and group indexes from 1950 and monthly from January 1954. The groups in each table from left to right are in descending order of importance in the total index, as indicated by the weight of the group given as a percentage of the total. For comparison purposes the residential building materials price index is also shown converted arithmetically to the base 1949=100.

The advance in the two indexes (1949=100) from December 1954 to December 1955 was 3.1 and 3.8 p.c. respectively for the residential and non-residential series. Within the various components, price increases in the heavily weighted lumber items were largely responsible for the upward movement in residential building materials, whereas the non-residential building materials index reflected the earlier steadiness, followed by later increases in the two most important groups—plumbing, heating and other equipment, and steel and metal work.

2.—Annual Price Index Numbers of Residential Building Materials 1950-55 and Monthly Indexes 1954 and 1955

(1935-39=100)

Year and Month	Composite Index (1949=100) ¹	Composite Index	Principal Components								Other Materials
			Cement, Sand and Gravel	Brick, Tile and Stone	Lumber and Its Products	Lath, Plaster and Insulation	Roofing Material	Paint and Glass	Plumbing and Heating Equipment	Electrical Equipment and Fixtures	
GROUP WEIGHT AS A PERCENTAGE OF TOTAL.....	...	...	42.6	18.6	11.3	7.6	5.0	5.0	3.8	3.2	2.9
1950.....	106.4	242.7	131.3	163.8	349.2	116.7	235.4	174.8	183.2	184.5	181.1
1951.....	125.5	286.2	140.9	180.7	425.0	126.3	235.8	197.8	210.4	213.3	212.7
1952.....	124.9	284.8	149.5	195.3	415.7	128.5	217.7	194.9	215.6	212.0	226.3
1953.....	123.9	282.6	151.8	205.8	410.6	128.5	218.6	203.8	209.0	211.4	229.5
1954.....	121.7	277.5	151.3	207.4	400.5	128.8	233.4	208.9	202.8	207.7	226.6
1955.....	124.3	283.4	149.4	209.5	409.4	125.3	244.5	219.7	207.2	229.2	230.3
1954											
January.....	121.5	277.1	152.5	207.4	400.2	127.7	222.9	206.5	203.5	207.3	227.5
February.....	121.2	276.4	152.5	207.4	398.3	127.7	226.2	206.5	203.5	205.8	227.2
March.....	121.0	275.9	152.5	207.4	397.3	129.2	226.2	206.5	203.3	203.3	227.2
April.....	121.1	276.1	151.7	207.4	397.3	129.2	226.1	205.2	203.8	208.8	227.2
May.....	121.0	275.9	151.1	207.4	397.4	129.2	226.1	206.9	202.2	208.8	227.2
June.....	121.6	277.3	151.1	207.4	400.4	129.2	229.3	208.2	202.1	209.4	227.8
July.....	122.0	278.2	151.1	207.4	402.4	129.2	235.8	209.5	200.9	209.4	227.8
August.....	122.0	278.1	151.1	207.4	402.5	129.2	235.8	210.8	200.9	208.0	224.7
September.....	122.2	278.7	151.1	207.4	402.5	129.2	242.2	210.8	203.0	208.0	225.5
October.....	122.2	278.7	151.1	207.4	402.5	129.2	242.2	211.2	203.0	208.0	225.5
November.....	122.2	278.6	151.1	207.4	401.9	129.2	242.2	211.7	203.6	208.0	225.5
December.....	122.3	278.9	149.1	207.4	403.3	126.9	245.4	212.5	203.6	208.0	225.5
1955											
January.....	122.3	278.8	149.6	210.0	403.6	125.1	239.0	212.5	203.6	208.0	225.5
February.....	122.5	279.3	149.6	210.0	404.0	124.5	239.0	214.8	203.7	215.5	225.5
March.....	122.6	279.4	149.6	210.0	403.5	124.5	239.0	215.3	204.9	216.8	227.4
April.....	123.1	280.6	149.6	210.0	404.4	124.5	239.0	222.0	206.6	224.6	227.4
May.....	123.1	280.7	149.3	209.3	405.1	124.5	239.0	220.7	206.6	224.6	225.0
June.....	124.3	283.3	149.3	209.3	410.3	125.1	246.7	220.7	206.4	226.1	225.9
July.....	124.6	284.2	149.3	209.3	412.3	125.1	248.7	220.7	206.4	225.1	226.6
August.....	125.2	285.5	149.3	209.3	413.7	125.1	248.7	219.8	208.6	225.1	232.1
September.....	125.9	287.0	149.3	209.3	414.6	126.2	248.7	219.8	209.5	244.9	234.5
October.....	125.9	287.0	149.3	209.3	413.9	126.2	248.7	223.1	209.5	245.3	237.8
November.....	125.8	286.8	149.3	209.3	412.8	126.2	248.7	223.1	210.3	247.5	238.0
December.....	126.1	287.8	149.6	209.3	414.6	126.2	248.7	223.9	210.3	247.5	238.0

¹ Arithmetically converted to base 1949=100 for comparability with price indexes of non-residential building materials shown in Table 3.

3.—Annual Price Index Numbers of Non-residential Building Materials 1950-55 and Monthly Indexes 1954 and 1955

(1949=100)

Year and Month	Composite Index	Principal Components						
		Steel and Metal Work	Plumbing, Heating and Other Equipment	Electrical Equipment and Materials	Aggregate, Cement and Concrete Mix	Lumber and Lumber Products	Blocks, Brick and Stone	Tile
GROUP WEIGHT AS A PERCENTAGE OF TOTAL.....	...	20.1	21.4	11.5	11.1	10.5	9.1	3.8
1950.....	105.0	107.3	103.0	105.8	103.2	110.3	104.3	104.9
1951.....	118.6	122.0	115.7	125.4	111.3	128.3	113.0	110.6
1952.....	123.2	131.3	121.3	121.7	117.4	127.9	119.7	115.5
1953.....	124.4	134.7	119.2	119.6	120.2	127.8	125.9	117.1
1954.....	121.8	128.2	115.2	117.6	120.9	124.5	127.0	120.6
1955.....	123.4	129.9	118.0	121.3	120.3	127.6	127.0	120.3
1954								
January.....	123.3	133.1	116.1	120.7	121.8	124.4	126.5	117.1
February.....	122.8	132.3	115.8	118.0	121.8	123.8	126.5	120.7
March.....	122.7	132.3	115.8	117.6	121.8	123.7	126.6	120.7
April.....	122.3	132.0	115.2	117.6	120.7	123.6	126.6	120.6
May.....	121.1	126.0	114.9	117.6	120.6	123.6	126.6	121.1
June.....	121.2	126.0	115.0	117.7	120.6	124.2	126.6	121.1
July.....	121.2	126.1	114.2	117.7	120.6	125.2	127.3	121.1
August.....	121.1	126.1	114.2	116.8	120.6	125.2	127.3	121.1
September.....	121.3	126.2	115.0	116.8	120.6	124.8	127.5	121.1
October.....	121.3	126.2	115.0	116.8	120.6	124.8	127.5	121.1
November.....	121.5	126.2	115.7	116.8	120.8	124.9	127.5	121.1
December.....	121.4	126.2	115.7	116.8	120.1	125.3	127.5	121.0
1955								
January.....	121.4	126.2	115.7	117.5	121.1	125.3	127.5	121.0
February.....	121.6	126.3	116.1	118.8	121.1	125.4	127.5	121.0
March.....	121.7	126.3	116.4	119.0	120.2	125.3	127.5	121.0
April.....	122.1	126.4	117.3	120.2	120.2	125.6	127.5	120.1
May.....	121.8	126.1	116.9	119.6	120.1	126.0	126.7	120.0
June.....	122.0	126.1	116.4	119.8	120.1	127.8	126.7	120.0
July.....	122.3	126.1	116.5	120.6	120.1	128.7	126.7	120.0
August.....	124.9	134.9	119.1	120.6	120.1	129.2	126.7	120.0
September.....	125.8	134.9	120.4	124.9	120.1	129.3	126.7	120.0
October.....	125.9	134.9	120.4	125.0	120.1	129.4	126.7	120.0
November.....	125.9	135.0	120.6	124.7	120.1	129.2	126.7	120.0
December.....	126.0	135.0	120.6	124.7	120.2	129.5	126.7	120.1

World Wholesale Price Indexes.—Price changes within different countries have varied widely during the years. Comparisons of Canadian wholesale price indexes and those of other countries are given in Table 4.

4.—Index Numbers of Wholesale Prices in Canada and other Countries 1954 and 1955

(BASE: 1953=100. SOURCE: United Nations Monthly Bulletin of Statistics, May 1956.)

Country	1954	1955	Country	1954	1955
Belgium.....	99	101	Iran.....	118	115
Brazil.....	130	147	Israel.....	118	124
Canada.....	98	99	Korea, South.....	124	225
Chile.....	157	277	Netherlands.....	101	102
Denmark.....	100	103	New Zealand.....	99	100
Dominican Republic.....	94	95	Norway.....	101	102
Egypt.....	97	99	Sweden.....	100	104
France.....	98	99	Switzerland.....	101	101
Germany (Western).....	98	101	Turkey.....	111	119
Greece.....	112	120	United Kingdom.....	101	104
India.....	98	90	United States.....	100	100

Section 2.—Consumer Price Index

The consumer price index is Canada's official measure of retail price change. Detailed information on the main aspects of the index is contained in the DBS publication, *The Consumer Price Index, January 1949-August 1952*.

The purpose of the index is to measure changes in retail prices of goods and services bought by a representative cross-section of the Canadian urban population. The families covered by the index lived in 27 Canadian cities of 30,000 population or over, ranged in size from two adults to two adults with four children and had annual incomes ranging from \$1,650 to \$4,050 during the survey year ended Aug. 31, 1948. The budget of the index represents the postwar level of consumption of those families. A list of 224 of the principal goods and services they purchased in the survey year forms the pricing sample and the relative amounts they spent on those and similar categories of items determine the relative importance, or weight, given to each item.

The monthly index number is calculated from a sample of more than 50,000 retail price quotations. Prices are collected by field representatives in 16 cities across Canada and are obtained by mailed questionnaires in 17 other cities. All cities covered, except Charlottetown, had a population of 30,000 or over at the date of the 1951 Census.

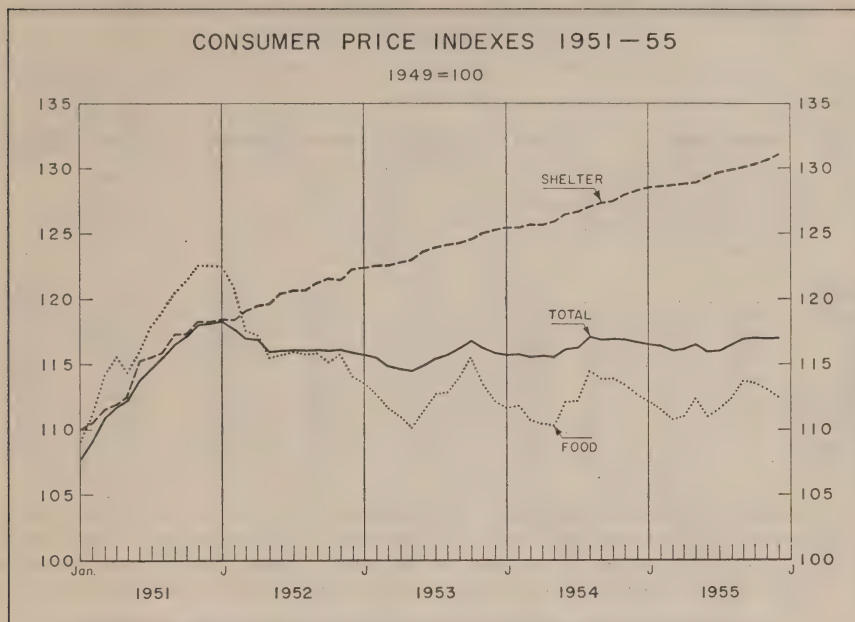
Price changes are measured from month to month and applied to the cost of the index budget. The budget is often described as a market basket of goods and services, the physical content of which is kept constant, only changes in retail prices being allowed to influence its cost over time. A comparison between the current cost and the base period cost of the same constant basket yields the index, that is, a measure of the average percentage change in all retail prices from the base period to date. For some of the food items entering into the basket the quantities are allowed to vary as between months but not as between years, in order to take account of seasonal variations in consumption.

Because the index refers to a postwar level of living a postwar year was selected as the reference level of prices and 1949 was considered most suitable because price levels in that year were relatively stable. For the same reason 1949 is used as a reference level for other index number measurements such as those related to industrial production, agriculture, imports and exports.

The percentage distribution of the main group weights as of the base period is as follows: food 31·7; clothing 11·5; shelter 14·8; household operation 17·3; and other commodities and services 24·7.

Consumer Price Index Movements.—The consumer price index (1949=100) rose steadily during 1950 from 100·1 in January to 106·6 in December and continued increasing at an increasing rate throughout 1951 until it reached a postwar peak of 118·2 in January 1952. Four successive monthly declines between brought the index to 115·9 in May 1952 but from that date to December 1955, a period of three and one-half years, the index was remarkably stable, moving between a low of 114·4 and a high of 116·9. This plateau of retail prices occurred during a period of rising wages and salaries with a consequent significant increase in the real purchasing power of wage and salaried earners. During the period 1951 to 1955 an index of average weekly earnings in manufacturing, adjusted for changes in retail prices to indicate change in the purchasing power of such earnings, increased 18·6 p.c.

Though the general average of prices remained practically unchanged from the middle of 1952 to the end of 1955 there were significant variations around this average. Prices of services, led by increasing rents, continued to advance while prices of commodities declined or remained unchanged. The rent component advanced steadily throughout the whole postwar period and between May 1952 and December 1955 moved up 12·1 p.c. Other services increased steadily, rising 7·7 p.c. but foods declined 2·7 p.c. and all commodities other than foods decreased 3·2 p.c. Most of the decline in food and in non-food commodities occurred during 1952, with foods, except for seasonal changes, remaining extremely steady during 1953-55.



5.—Annual Consumer Price Index 1950-55 and Monthly Indexes 1954 and 1955

(1949=100)

Year and Month	Food	Household Operation	Shelter	Clothing	Other Commodities and Services	Composite Index
GROUP WEIGHT AS A PERCENTAGE OF TOTAL.....	31.7	17.3	14.8	11.5	24.7	100.0
1950.....	102.6	102.4	106.2	99.7	103.1	102.9
1951.....	117.0	113.1	114.4	109.8	111.5	113.7
1952.....	116.8	116.2	120.2	111.8	116.0	116.5
1953.....	112.6	117.0	123.6	110.1	115.8	115.5
1954.....	112.2	117.4	126.5	109.4	117.4	116.2
1955.....	112.1	116.4	129.4	108.0	118.1	116.4
1954						
January.....	111.6	117.5	125.4	110.1	116.4	115.7
February.....	111.7	117.5	125.4	110.0	116.5	115.7
March.....	110.7	117.6	125.6	109.8	116.6	115.5
April.....	110.4	118.1	125.6	109.9	117.2	115.6
May.....	110.2	117.3	125.8	109.9	117.5	115.5
June.....	112.0	117.1	126.4	109.7	117.5	116.1
July.....	112.1	117.2	126.6	109.6	117.6	116.2
August.....	114.4	117.2	127.0	109.6	117.7	117.0
September.....	113.8	117.2	127.2	109.5	117.6	116.8
October.....	113.8	117.3	127.4	108.4	117.9	116.8
November.....	113.4	117.2	127.9	108.2	118.2	116.8
December.....	112.6	117.1	128.2	108.1	118.2	116.6

5.—Annual Consumer Price Index 1950-55 and Monthly Indexes 1954 and 1955—concluded

(1949=100)

Year and Month	Food	Household Operation	Shelter	Clothing	Other Com- modities and Services	Composite Index
1955						
January.....	112.1	117.1	128.4	108.1	118.2	116.4
February.....	111.5	117.1	128.5	108.1	118.3	116.3
March.....	110.7	117.0	128.6	108.0	118.3	116.0
April.....	111.0	116.9	128.7	107.9	118.2	116.1
May.....	112.3	116.4	128.8	107.9	118.3	116.4
June.....	111.0	116.1	129.2	107.8	117.8	115.9
July.....	111.5	115.8	129.6	107.8	117.7	116.0
August.....	112.4	115.8	129.8	107.8	118.0	116.4
September.....	113.7	115.9	130.0	107.8	117.9	116.8
October.....	113.5	116.1	130.2	107.8	118.1	116.9
November.....	113.0	116.5	130.6	107.9	118.3	116.9
December.....	112.4	116.6	131.0	108.5	118.3	116.9

Table 6 provides single commodity price relatives on the base 1949=100 for a number of important foods entering into the food component of the consumer price index. It also provides a record of average prices based on the actual average level of prices prevailing in October 1952 and calculated for the other months on the basis of the price relatives.

6.—Urban Average and Relative Retail Prices of Staple Foods 1950-55 and by Month 1954 and 1955

(1949=100)

Year and Month	Beef, sirloin, per lb.		Pork, fresh loins ¹ , per lb.		Lard, pure, per lb.		Eggs, "A", fresh, per doz.		Milk, fresh, per qt.	
	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative
	cts.		cts.		cts.		cts.		cts.	
1950.....	82.8	117.6	63.4	99.3	22.4	95.3	56.5	91.8	18.3	102.9
1951.....	101.1	143.5	73.3	114.8	28.4	121.1	71.6	116.5	19.6	110.0
1952.....	93.4	132.7	63.2	99.0	17.0	72.5	59.1	96.0	21.1	118.4
1953.....	96.6	113.0	72.5	113.7	20.8	88.4	67.6	109.9	21.1	118.5
1954.....	77.0	109.4	66.4 ¹	116.8 ¹	26.3	112.2	57.1	92.9	21.1	118.5
1955.....	80.0	113.6	61.5	108.2	22.4	95.2	61.5	99.9	21.1	118.5
1954										
January.....	74.8	106.2	67.2	118.1	27.0	115.0	54.5	88.6	21.1	118.5
February.....	74.5	105.8	69.5	122.2	27.3	116.3	56.5	91.9	21.1	118.5
March.....	71.7	101.8	69.2	121.8	27.3	116.3	56.3	91.5	21.1	118.5
April.....	71.7	101.8	68.0	119.6	27.5	117.2	51.9	84.4	21.1	118.5
May.....	73.1	103.8	68.9	121.1	27.6	117.6	51.5	83.7	21.1	118.5
June.....	77.1	109.5	73.0	128.3	27.5	117.2	52.0	84.5	21.1	118.5
July.....	78.2	111.1	69.4	122.1	26.4	112.5	59.0	95.9	21.1	118.5
August.....	81.1	115.2	67.8	119.2	25.4	108.2	61.2	99.5	21.1	118.5
September.....	82.1	116.6	64.6	113.6	24.7	105.2	63.0	102.4	21.1	118.5
October.....	81.0	115.0	60.8	106.9	25.0	106.5	64.9	105.5	21.1	118.5
November.....	79.9	113.5	59.3	104.2	25.1	106.9	62.4	101.4	21.1	118.5
December.....	78.9	112.1	59.7	105.0	25.3	107.8	52.4	85.2	21.1	118.5

¹Series "Pork, fresh loins" replaced with "Pork, rib chops" in 1954.

**6.—Urban Average and Relative Retail Prices of Staple Foods 1950-55
and by Month 1954 and 1955—concluded**

(1949=100)

Year and Month	Beef, sirloin, per lb.		Pork, fresh loins', per lb.		Lard, pure lb.		Eggs, "A", fresh, per doz.		Milk, fresh, per qt.	
	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative
	cts.		cts.		cts.		cts.		cts.	
1955										
January.....	79.4	112.8	59.7	105.0	25.1	106.9	50.4	81.9	21.1	118.5
February.....	78.4	111.3	58.8	103.4	24.1	102.7	48.6	79.0	21.1	118.5
March.....	77.3	109.8	57.4	100.9	22.6	96.3	52.1	84.7	21.1	118.5
April.....	77.5	110.1	56.4	99.2	22.3	95.0	54.4	88.4	21.1	118.5
May.....	77.8	110.5	56.0	98.5	22.4	95.4	54.2	88.1	21.1	118.5
June.....	79.1	112.3	59.5	104.6	22.2	94.6	53.9	87.6	21.1	118.5
July.....	80.6	114.5	64.9	114.1	21.7	92.5	65.6	106.6	21.1	118.5
August.....	82.9	117.7	64.7	113.8	21.2	90.3	70.1	114.0	21.1	118.5
September.....	83.7	118.9	68.6	120.6	21.3	90.7	73.2	119.0	21.1	118.5
October.....	82.2	116.7	68.5	120.5	21.5	91.6	73.0	118.7	21.1	118.5
November.....	80.7	114.6	65.1	114.5	21.9	93.3	72.5	117.9	21.1	118.5
December.....	80.0	113.6	58.6	103.1	21.9	93.3	69.7	113.3	21.1	118.5
Flour, per lb.		Tomatoes, canned, 2½'s, tin		Potatoes, 10 lb.		Sugar, granulated, per lb.		Bread, per lb.		
	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative
	cts.		cts.		cts.		cts.		cts.	
1950.....	7.3	104.8	17.7	88.0	33.2	95.4	10.6	114.4	10.6	104.6
1951.....	7.5	106.9	23.1	115.0	34.8	99.9	12.0	129.8	11.7	115.5
1952.....	7.4	105.9	28.8	143.6	68.6	196.9	11.2	121.0	12.0	119.3
1953.....	7.6	108.9	24.4	121.8	39.0	111.8	10.0	107.8	12.3	121.5
1954.....	7.7	110.2	21.5	107.4	37.5	107.6	9.4	101.8	12.8	126.8
1955.....	7.4	106.4	26.3	131.3	46.8	134.5	9.2	99.7	12.8	126.4
1954										
January.....	7.9	113.3	21.6	107.7	29.4	84.4	9.6	104.1	12.8	126.8
February.....	7.8	111.9	21.3	106.2	29.2	83.8	9.6	104.1	12.8	126.8
March.....	7.8	111.9	21.1	105.2	28.9	83.0	9.5	103.0	12.8	126.8
April.....	7.7	110.5	20.7	103.2	27.7	79.5	9.5	103.0	12.8	126.8
May.....	7.7	110.5	20.5	102.2	28.6	82.1	9.4	101.9	12.8	126.8
June.....	7.7	110.5	20.4	101.7	32.3	92.7	9.4	101.9	12.8	126.8
July.....	7.7	110.5	20.5	102.2	43.6	125.2	9.3	100.8	12.8	126.8
August.....	7.7	110.5	20.5	102.2	57.4	164.8	9.3	100.8	12.8	126.8
September.....	7.6	109.0	20.8	103.7	46.5	133.5	9.3	100.8	12.8	126.8
October.....	7.6	109.0	21.5	107.2	40.6	116.5	9.2	99.7	12.8	126.8
November.....	7.5	107.6	23.9	119.1	42.1	120.9	9.3	100.8	12.8	126.8
December.....	7.5	107.6	25.7	128.1	43.5	124.9	9.3	100.8	12.8	126.8
1955										
January.....	7.5	107.6	26.2	130.6	43.6	125.2	9.3	100.8	12.8	126.8
February.....	7.4	106.2	26.5	132.1	44.8	128.6	9.3	100.8	12.8	126.8
March.....	7.4	106.2	26.8	133.6	45.5	130.6	9.3	100.8	12.8	126.8
April.....	7.5	107.6	27.0	134.6	47.8	137.2	9.3	100.8	12.7	125.8
May.....	7.4	106.2	27.2	135.6	73.8	211.9	9.3	100.8	12.7	125.8
June.....	7.4	106.2	27.4	136.6	64.3	184.6	9.2	99.7	12.7	125.8
July.....	7.4	106.2	27.7	138.1	57.9	166.2	9.1	98.6	12.7	125.8
August.....	7.4	106.2	27.7	138.1	46.1	132.3	9.2	99.7	12.7	125.8
September.....	7.4	106.2	25.6	127.6	37.1	106.5	9.1	98.6	12.8	126.8
October.....	7.4	106.2	24.1	120.1	33.8	97.0	9.1	98.6	12.8	126.8
November.....	7.4	106.2	24.7	123.1	32.7	93.9	9.1	98.6	12.8	126.8
December.....	7.4	106.2	25.2	125.6	34.7	99.6	9.1	98.6	12.8	126.8

¹ Series "Pork, fresh loins" replaced with "Pork, rib chops" in 1954.

Consumer Price Indexes for Regional Cities.—Table 7 gives regional consumer price indexes for ten cities or city combinations. These indexes are not designed to show whether it costs more or less to live in one city than in another and should not be used for that purpose. Their function is to measure percentage changes in retail prices—over a certain time in each city or city combination—of a fixed basket of goods and services representing the level of consumption of a particular group of families.

7.—Consumer Price Indexes for Regional Cities 1950-55 and by Month 1954 and 1955

(1949=100)

Year and Month	St. John's, Nfld. ¹	Halifax, N.S.	Saint John, N.B.	Mont- real, Que.	Ottawa, Ont.	Tor- onto, Ont.	Winni- peg, Man.	Saska- toon- Regina, Sask.	Ed- monton- Calgary, Alta.	Van- couver, B.C.
1950.....	..	102.1	103.3	103.7	103.1	104.1	103.8	102.2	103.9	103.6
1951.....	..	112.1	114.1	116.1	115.3	115.4	114.6	111.7	113.5	114.3
1952.....	103.5	115.3	117.4	117.6	116.8	117.5	116.1	112.8	114.8	117.4
1953.....	102.2	113.2	115.3	116.3	115.0	116.8	114.4	113.1	114.0	116.1
1954.....	102.8	114.1	116.6	116.8	116.2	118.3	115.3	114.2	114.9	117.4
1955.....	104.2	114.8	117.7	116.9	117.2	118.8	115.9	114.6	114.6	117.9
1954										
January.....	102.6	113.2	115.4	116.7	115.3	117.7	114.9	113.2	114.4	116.2
February.....	102.4	113.8	115.8	116.8	115.5	117.6	115.0	113.5	114.3	116.4
March.....	102.2	113.7	116.2	116.3	115.3	117.4	114.7	113.7	114.4	116.3
April.....	102.0	113.8	115.9	116.3	115.5	117.7	114.9	113.6	114.3	116.9
May.....	102.2	113.6	115.8	116.3	115.5	117.7	114.8	113.5	114.4	116.9
June.....	102.5	113.9	116.2	117.0	116.1	118.2	115.3	114.1	114.8	117.1
July.....	102.6	113.8	116.2	117.2	116.4	118.8	115.5	114.1	114.8	117.0
August.....	104.4	115.3	117.6	117.2	117.0	119.0	116.4	115.3	115.4	118.1
September.....	103.4	114.8	117.7	116.6	116.9	118.8	115.7	115.1	115.7	118.1
October.....	103.0	114.6	117.6	117.0	117.3	118.9	115.5	115.2	115.6	118.6
November.....	102.8	114.5	117.5	117.1	117.2	118.9	115.7	114.8	115.3	118.6
December.....	102.9	114.5	117.5	117.0	117.0	118.8	115.5	113.9	115.0	118.3
1955										
January.....	102.6	114.3	117.4	117.1	117.0	118.9	115.5	113.9	114.6	118.4
February.....	102.7	114.6	117.6	117.1	117.0	118.7	115.4	113.8	114.5	118.3
March.....	102.9	114.5	117.6	116.7	116.8	118.2	115.2	113.7	114.2	117.9
April.....	103.5	114.6	117.6	116.7	116.9	118.4	115.3	113.9	114.2	117.2
May.....	105.0	115.4	118.1	117.0	117.3	118.9	115.6	114.4	114.2	117.2
June.....	104.3	114.6	117.3	116.3	116.9	118.3	115.0	114.3	113.8	116.8
July.....	104.5	114.7	117.3	116.7	117.0	118.7	115.5	114.3	114.1	116.5
August.....	105.8	115.1	117.8	116.8	117.3	118.5	116.1	115.1	114.6	116.8
September.....	105.1	115.2	118.1	117.1	117.5	119.2	116.5	115.4	115.2	118.1
October.....	104.8	114.9	117.8	117.0	117.7	119.4	116.6	115.5	115.2	118.5
November.....	104.6	114.9	117.6	117.1	117.7	119.0	116.9	115.6	115.1	118.6
December.....	104.5	114.7	117.7	116.7	117.8	118.9	116.9	115.7	115.1	120.3

¹ Explanation of methods used in compiling St. John's, Nfld., index (June 1951=100) is given in DBS Reference Paper No. 28.

World Retail Price Indexes.—In order to place changes in Canadian retail prices in perspective with those occurring elsewhere, Table 8 provides retail price indexes for selected countries in 1954 and 1955. These indexes measure price change only within each country and should not be used to compare actual levels of living costs from country to country.

8.—Index Numbers of Retail Prices in Canada and other Countries 1954 and 1955

(BASE: 1953=100. SOURCE: *United Nations Monthly Bulletin of Statistics*, May 1956.)

Country	1954	1955	Country	1954	1955
Belgium.....	101	101	Iran.....	118	122
Brazil.....	118	139	Israel.....	112	119
Canada.....	101	101	Korea, South.....	135	229
Chile.....	172	302	Netherlands.....	104	106
Denmark.....	101	107	New Zealand.....	105	107
Dominican Republic.....	98	98	Norway.....	105	106
Egypt.....	96	96	Sweden.....	101	104
France (Paris).....	100	101	Switzerland.....	101	102
Germany (Western).....	100	102	Turkey.....	110	118
Greece.....	115	122	United Kingdom.....	102	106
India.....	95	90	United States.....	100	100

Section 3.—Index Numbers of Security Prices

Price indexes for common stocks are calculated on the 1935-39 base and published weekly and monthly for a sample of issues, broadly classified under the headings: industries, public utilities and banks. Within these categories the sample is further classified by industries for which sub-group indexes are available. Monthly indexes of preferred stocks are also calculated and published.

For purposes of index calculation, Thursday closing prices are used for the issues of companies listed on either or both the Montreal and Toronto stock exchanges. Weights are applied to each issue on the basis of the number of shares currently outstanding. The list of stocks included in the various security series are revised annually so that issues which have become important in stock market activity may be included and those of declining interest removed. Provision is also made for stock splits, mergers and the exercise of 'rights'. The indexes are designed to reflect weekly and monthly changes of interest to the investor, rather than day-to-day changes of more speculative interest. For that reason the historical record of indexes dating back to January 1914 on a monthly basis* is of significance in any analysis of the degree of fluctuation in stock prices through time.

Investors Index.—Common stock prices recorded a generally upward trend during 1954 and 1955. The investors index stood at 247.6 in December 1955, 61.2 p.c. above the December 1953 figure of 153.6 and 25.3 p.c. above the 25 year peak of 197.8 established in September 1929. During 1955 prices moved up 19.7 p.c. led by strength in industrial mines, machinery and equipment, food and allied products, pulp and paper and milling issues. While all groups shared in the 1955 advance, participation of two—textiles and clothing, and oils—was negligible.

* Available on request from Prices Section, Labour and Prices Division, Dominion Bureau of Statistics.

9.—Investors Index Numbers of Common Stocks by Month 1954 and 1955

(1935-39=100)

Year and Month	Industrials										Public Utilities				Banks, Total	In- vestors Com- posite Index
	Ma- chinery and Equip- ment	Pulp and Paper	Milling	Oils	Tex- tiles and Cloth- ing	Food and Allied Prod- ucts	Bever- ages	Build- ing Ma- terials	Indus- trial Mines	Indus- tri- als Total	Trans- por- ta- tion	Tele- phone and Tele- graph	Power and Trac- tion	Public Utili- ties, Total		
1954																
January.....	395.3	562.6	129.3	126.1	168.8	122.9	434.5	283.6	102.7	156.5	265.4	102.5	131.5	149.1	185.5	157.4
February.....	418.4	590.4	129.9	136.3	158.4	123.6	447.9	286.8	103.4	163.2	272.8	103.6	134.0	151.9	189.6	163.2
March.....	432.8	596.4	131.1	136.4	166.3	123.8	440.0	285.2	106.9	165.1	267.0	106.9	137.2	153.3	192.5	165.0
April.....	458.8	628.5	133.9	145.4	163.1	124.6	453.6	298.6	116.0	174.7	280.6	107.8	145.0	159.5	195.4	173.6
May.....	474.2	679.8	137.6	147.6	153.2	133.0	476.4	322.8	118.9	181.0	274.6	110.1	152.6	162.4	204.0	179.5
June.....	469.1	685.1	134.0	142.8	151.4	136.8	474.5	321.7	123.8	180.4	301.6	110.5	151.8	167.2	212.2	180.5
July.....	503.6	718.4	138.3	138.2	151.6	135.5	480.1	331.4	122.3	181.8	297.5	112.9	156.4	169.4	216.4	182.3
August.....	520.8	744.3	145.4	142.1	161.2	142.6	497.6	348.5	125.0	187.9	296.6	114.6	156.7	170.2	217.3	187.0
September.....	510.7	750.1	151.9	145.0	154.1	144.5	509.4	347.6	133.3	191.4	295.0	114.0	159.0	170.4	215.0	189.5
October.....	499.0	740.0	156.8	150.8	167.0	144.9	500.0	342.7	132.0	191.9	296.6	115.4	158.8	171.4	217.4	190.2
November.....	523.2	789.3	158.4	158.4	170.2	150.9	519.8	358.7	144.5	203.0	314.6	115.6	156.6	173.8	224.2	199.5
December.....	554.9	830.4	156.5	163.5	175.2	150.8	521.5	385.6	149.3	210.5	337.5	118.6	162.9	181.8	227.0	206.8
1955																
January.....	554.2	840.5	157.9	161.0	179.6	154.7	511.0	385.9	152.5	211.0	329.6	117.5	165.6	181.0	230.8	207.3
February.....	592.7	873.6	171.0	162.0	178.2	157.6	518.7	407.4	164.8	219.2	336.6	119.4	167.7	184.0	231.1	214.7
March.....	616.4	864.5	162.1	158.5	173.0	159.9	511.8	401.6	162.8	218.0	339.7	119.8	168.9	185.2	236.5	213.7
April.....	641.3	911.0	172.7	157.5	169.4	169.8	507.8	408.6	166.3	227.0	338.8	118.1	173.6	185.6	233.0	216.5
May.....	658.4	991.4	180.1	154.0	170.0	171.0	556.7	423.7	170.8	222.8	362.5	122.1	173.4	191.7	234.4	222.1
June.....	726.2	1,044.7	183.8	163.6	172.4	177.2	582.2	447.7	188.1	244.4	388.7	128.0	183.1	202.9	243.3	237.1
July.....	760.8	1,069.8	197.0	169.2	178.3	187.5	589.3	458.7	194.8	252.8	391.7	130.9	194.3	208.4	270.6	246.1
August.....	735.6	1,066.9	198.5	164.7	176.2	194.8	592.0	467.2	202.4	265.3	385.2	129.5	195.2	207.0	263.2	245.3
September.....	794.0	1,098.2	215.1	174.1	183.2	199.6	640.1	467.9	212.4	265.9	390.8	132.2	196.3	211.2	269.0	255.9
October.....	742.7	1,044.9	227.1	164.1	187.3	196.2	609.8	435.8	191.2	248.9	371.0	129.6	182.1	200.6	240.0	239.9
November.....	766.5	1,062.5	213.3	168.8	187.7	197.1	593.2	453.8	200.8	255.3	370.6	129.6	184.7	201.4	250.8	245.6
December.....	763.8	1,073.3	209.1	170.8	178.2	200.0	581.9	457.8	204.5	257.0	386.1	129.3	185.0	204.2	253.4	247.6

Mining Stocks.—Mining stocks paralleled the movement of industrials and utilities during 1954 and 1955. The composite index moved up 61.6 p.c. from the end of December 1953 to a high of 129.1 in August 1955 and then declined slightly to 121.4 at the end of the year. During 1955 quotations moved up 20.3 p.c. reflecting an increase of 31.5 p.c. in base metals and 7.4 p.c. in golds.

10.—Weighted Index Numbers of Prices of Mining Stocks by Month 1952-55

(1935-39=100)

Year and Month	Gold	Base Metals	Total	Year and Month	Gold	Base Metals	Total
1952				1954			
January.....	72.0	177.7	104.2	January.....	60.3	131.2	81.9
February.....	71.2	174.6	102.6	February.....	62.1	132.0	83.4
March.....	73.4	169.6	102.7	March.....	61.5	136.5	84.3
April.....	77.0	162.1	102.8	April.....	64.8	145.5	89.3
May.....	75.1	161.6	101.4	May.....	64.4	146.5	89.4
June.....	75.5	162.6	102.0	June.....	63.9	149.7	90.0
July.....	76.6	176.6	107.0	July.....	64.9	154.0	92.0
August.....	77.6	184.9	110.2	August.....	67.8	159.2	95.6
September.....	74.4	180.2	106.6	September.....	68.3	160.8	96.4
October.....	69.5	166.9	99.1	October.....	66.2	161.0	95.0
November.....	71.1	168.8	100.8	November.....	65.6	168.7	97.0
December.....	73.2	172.5	103.4	December.....	67.6	177.2	100.9
1953				1955			
January.....	73.5	180.6	106.0	January.....	68.3	181.3	102.7
February.....	72.2	174.3	103.2	February.....	69.3	191.3	106.4
March.....	70.1	174.0	101.7	March.....	69.0	189.6	105.7
April.....	69.2	159.0	96.5	April.....	71.1	190.8	110.2
May.....	68.9	150.9	93.8	May.....	72.8	209.0	114.2
June.....	66.8	143.7	90.2	June.....	75.9	228.0	121.5
July.....	66.3	148.9	91.4	July.....	75.0	241.8	125.7
August.....	67.5	144.0	90.7	August.....	76.3	250.0	129.1
September.....	62.5	136.3	85.0	September.....	75.3	252.0	129.0
October.....	60.1	134.3	82.7	October.....	71.0	224.2	117.6
November.....	60.1	137.6	83.7	November.....	71.2	230.2	119.6
December.....	57.3	131.5	79.9	December.....	72.6	233.0	121.4

Preferred Stocks.—Preferred stocks, pursuing their usual intermediate course, moved moderately higher during the years 1954 and 1955 as the price index for a representative list of issues changed from 161.7 at the end of 1953 to 175.4 at the end of 1954 and in 1955 fluctuated between a high of 179.9 in August and a low of 173.9 in December.

11.—Index Numbers of Preferred Stocks by Month 1946-55

(1935-39=100)

NOTE.—Figures for 1927-45 are given in the 1948-49 Year Book, p. 958.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1946.....	152.1	154.1	154.5	157.8	159.7	161.6	157.5	157.9	151.4	153.6	154.7	153.5
1947.....	157.5	158.5	156.0	153.1	154.3	155.8	155.4	153.5	153.6	152.0	150.2	148.1
1948.....	144.5	141.0	138.9	144.2	147.0	148.2	147.5	146.4	144.8	143.7	144.6	144.6
1949.....	144.7	144.0	142.8	140.9	139.9	136.3	138.6	140.4	141.8	145.8	150.0	150.7
1950.....	152.4	153.0	153.7	154.4	157.3	158.2	154.6	155.6	158.2	161.1	161.1	160.2
1951.....	166.0	169.3	166.0	165.2	164.3	162.2	163.1	165.2	166.4	164.2	162.8	159.5
1952.....	161.4	160.6	159.5	157.2	157.2	157.7	159.8	163.6	162.4	161.2	160.3	160.7
1953.....	161.0	161.6	163.6	161.6	162.9	163.0	163.8	164.3	162.0	161.0	161.6	161.7
1954.....	162.6	163.6	165.4	168.0	169.7	170.7	171.3	173.0	173.4	174.1	175.4	175.4
1955.....	175.6	176.0	176.2	175.4	176.1	177.9	179.5	179.9	179.0	179.2	176.6	173.9

CHAPTER XXIV.—PUBLIC FINANCE*

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Section 1.—Combined Statistics of Public Finance for All Governments

Combined statistics of public finance for all governments in Canada—federal, provincial and municipal—are presented in this Section. Additional information is provided for each level of government in Sections 2, 3 and 4.

Combined Revenue and Expenditure.—Tables 1 and 2 give details of the federal, provincial and municipal net combined revenue by sources and net combined current and capital expenditure by services, respectively, for 1952 and 1953. This net basis has been prepared by deducting from revenue, and the appropriate expenditure, certain specified amounts such as grants-in-aid and shared-cost contributions from other governments, institutional revenue, certain other sales of commodities and services, and interest, premium, discount and exchange revenue. Amounts provided for debt retirement are excluded to avoid duplication since all expenditure resulting from capital borrowings is included.

Inter-governmental transfers such as subsidy payments by the Federal Government to the provincial governments are unconditional grants and therefore cannot be offset against any specific expenditure. These are set out separately in Tables 1 and 2 in order to prevent duplication and to provide additive totals. Because of the differing accounting practices of governments and variations in fiscal year-ends, discrepancies appear between the amounts recorded as inter-governmental transfers in the two tables.

Tables 3 and 4 show combined revenue of all governments and combined expenditure of all governments, respectively, for the years 1950-53, both exclusive of inter-governmental transfers.

* Except as otherwise noted, this Chapter has been revised in the Public Finance and Transportation Division, Dominion Bureau of Statistics.

1.—Combined Revenue of All Governments 1952 and 1953

NOTE.—Figures are for the fiscal years ended nearest Dec. 31.

Item	1952				1953			
	Federal	Pro- vincial	Muni- cipal	Total	Federal	Pro- vincial	Muni- cipal	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Taxes—								
Corporation.....	1,297,451	79,239	—	1,376,690	1,251,729	66,120	—	1,317,849
Customs duties and import.....	390,121	—	—	390,121	407,998	—	—	407,998
Gasoline.....	—	196,907	—	196,907	—	219,762	—	219,762
General sales.....	563,341	100,967	30,177	694,485	585,694	108,264	33,863	727,821
Income—persons.....	1,180,026	13	—	1,180,039	1,187,656	13	—	1,187,669
Liquor ¹	127,151	157,161	—	284,312	132,490	156,900	—	289,390
Succession duties.....	38,071	32,726	—	70,797	39,138	31,134	—	70,272
Real and personal property.....	—	6,277	536,474 ²	542,751	—	5,177	581,512 ²	586,689
Tobacco.....	219,069	11,411	—	230,480	209,634	14,025	—	223,659
Withholding.....	53,674	—	—	53,674	53,761	—	—	53,761
Other.....	173,689	54,584	70,974	299,247	182,270	56,113	75,890	314,273
Totals, Taxes.....	4,042,593	639,285	637,625	5,319,503	4,050,370	657,508	691,265	5,399,143
Licences, Permits and Fees—								
Motor vehicle.....	309	81,323	—	81,632	349	88,644	—	88,993
Other.....	6,457	3	18,324	24,781	6,873	3	20,312	27,185
Totals, Licences, Permits and Fees.....	6,766	81,323	18,324	106,413	7,222	88,644	20,312	116,178
Public domain.....	2,750	161,923	—	164,673	2,072	202,256	—	204,328
Public utility contributions to municipalities.....	—	—	33,093	33,093	—	—	36,009	36,009
Post Office (net).....	6,501	—	—	6,501	—	—	—	—
Bank of Canada profits.....	28,792	—	—	28,792	43,868	—	—	43,868
Bullion and coinage.....	4,386	—	—	4,386	4,241	—	—	4,241
Miscellaneous revenue.....	33,088	38,503	50,889	122,480	35,259	43,549	56,883	135,691
Totals, Revenue (excluding Inter-governmental Transfers).....	4,124,876	921,034	739,931	5,785,841	4,143,032	991,957	804,469	5,939,458
Inter-governmental Transfers—								
Federal subsidies to provinces.....	—	20,046	—	20,046	—	20,048	—	20,048
Subsidies to municipalities.....	—	—	25,170 ⁴	25,170	—	—	28,257 ⁴	28,257
Transitional grant to Newfoundland.....	—	5,650	—	5,650	—	4,800	—	4,800
Dominion-Provincial Taxation Agreements.....	—	297,431	—	297,431	—	308,803	—	308,803
Share of income tax on power utilities.....	—	4,369	—	4,369	—	6,832	—	6,832
Nova Scotia highway tax.....	—	245	—	245	—	245	—	245
Manitoba Municipal Commissioner's levy.....	—	464	—	464	—	—	—	—
Interest on Common School Fund.....	—	134	—	134	—	134	—	134
Totals, Inter-governmental Transfers.....	—	328,339	25,170	353,509	—	340,862	28,257	369,119
Grand Totals.....	4,124,876	1,249,373	765,101	6,139,350	4,143,032	1,332,819	832,726	6,308,577

¹ Includes provincial income from liquor control.² Excludes personal property which is inseparable from other taxes.³ Included in miscellaneous revenue.⁴ Includes federal grants to municipalities in lieu of taxes on federal properties which are not segregated from provincial subsidies to municipalities.

2.—Combined Expenditure of All Governments 1952 and 1953

NOTE.—Figures are for the fiscal years ended nearest Dec. 31.

Item	1952				1953			
	Federal	Pro- vincial	Muni- cipal	Total	Federal	Pro- vincial	Muni- cipal	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Public Welfare—								
Health and hospital care.....	31,219	195,548	47,459	274,226	34,432	211,444	51,972	297,848
Labour and unemployment insur- ance.....	58,406	5,329	—	63,735	60,256	5,807	—	66,063
Relief.....	—	10,760	6,379	17,139	—	11,925	6,421	18,346
Old age pensions.....	19,222	27,457	—	46,679	20,387	28,733	—	49,120
Family allowances.....	336,496	—	—	336,496	352,514	—	—	352,514
Other.....	23,372	50,530	82,976	156,878	24,834	57,517	100,162	182,513
Totals, Public Welfare.....	468,715	289,624	136,814	895,153	492,423	315,426	158,555	966,404
Education.....	21,565	216,861	331,786	570,212	21,517	231,091	363,255	615,863
Transportation.....	155,595	370,056	143,420	669,071	190,134	356,012	167,035	713,181
Agriculture.....	104,499	32,216	—	136,715	112,607	32,411	—	145,018
Public domain.....	56,331	67,399	—	123,730	64,121	73,240	—	137,361
National defence.....	1,864,533	—	—	1,864,533	1,792,043	—	—	1,792,043
Veterans' pensions and aftercare...	221,966	—	—	221,966	220,344	—	—	220,344
Expansion of industry.....	65,398	—	—	65,398	19,151	—	—	19,151
Debt charges, net (excluding retire- ments).....	390,573	50,105	42,056	482,734	403,660	48,491	46,474	498,625
Other expenditure.....	336,158	143,427	244,486	724,071	384,578	158,856	256,401	799,835
Totals, Expenditure (exclud- ing Inter - governmental Transfers).....	3,685,333	1,169,688	898,562	5,753,583	3,700,578	1,215,527	991,720	5,907,825
Inter-governmental Transfers—								
Federal subsidies to provinces...	20,108	—	—	20,108	20,108	—	—	20,108
Transitional grant to Newfound- land.....	5,650	—	—	5,650	4,800	—	—	4,800
Provincial subsidies to muni- cipalities.....	—	23,792	—	23,792	—	26,772	—	26,772
Dominion - Provincial Taxation Agreements.....	308,572	—	—	308,572	309,228	—	—	309,228
Share of income tax on electric power utilities.....	4,370	—	—	4,370	6,831	—	—	6,831
Nova Scotia highway tax.....	—	—	246	246	—	—	246	246
Manitoba Municipal Commis- sioner's levy.....	—	—	430	430	—	—	—	—
Interest on Common School Fund	134	—	—	134	134	—	—	134
Grants to municipalities in lieu of taxes on federal properties.....	2,807	—	—	2,807	3,321	—	—	3,321
Totals, Inter-governmental Transfers.....	341,641	23,792	676	366,109	344,422	26,772	246	371,440
Grand Totals.....	4,026,974	1,193,480	899,238	6,119,692	4,045,000	1,242,299	991,966	6,279,265

3.—Combined Revenue of All Governments exclusive of Inter-governmental Transfers 1950-53

NOTE.—Figures are for the fiscal years ended nearest Dec. 31.

Item	1950	1951	1952	1953
	\$'000	\$'000	\$'000	\$'000
Taxes—				
Corporation.....	989,588	1,332,410	1,376,690	1,317,849
Customs import duties.....	296,433	347,208	390,121	407,998
Gasoline.....	155,441	178,461	196,907	219,762
General sales.....	561,356	691,953	694,485	727,821
Income—persons.....	652,444	976,953	1,180,039	1,187,669
Liquor ¹	268,118	264,102	284,312	289,390
Succession duties.....	64,815	72,398	70,797	70,272
Real and personal property ²	405,617	475,040	542,751	586,689
Tobacco.....	216,998	216,774	230,480	223,659
Withholding.....	61,610	55,017	53,674	53,761
Other.....	230,986	319,929	299,247	314,273
Totals, Taxes.....	3,903,406	4,930,245	5,319,503	5,399,143
Licences, Permits and Fees—				
Motor vehicle.....	66,948	72,970	81,632	88,993
Other.....	37,681	43,206	24,781	27,185
Totals, Licences, Permits and Fees.....	104,629	116,176	106,413	116,178
Public domain.....	116,406	134,343	164,673	204,328
Public utility contributions to municipalities.....	24,469	29,323	33,093	36,009
Post Office (net).....	3	6,695	6,501	8
Bank of Canada profits.....	19,663	24,018	28,792	43,868
Bullion and coinage.....	4,708	4,838	4,386	4,241
Miscellaneous revenue.....	120,020	89,929	122,480	135,691
Totals, Revenue (excluding Inter-governmental Transfers).....	4,293,301	5,335,567	5,785,841	5,939,458

¹ Includes provincial income from liquor control. ² Excludes personal property for municipal governments which is inseparable from other taxes. ³ Expenditure exceeds revenue.

4.—Combined Expenditure of All Governments exclusive of Inter-governmental Transfers 1950-53

NOTE.—Figures for the fiscal years ended nearest Dec. 31.

Item	1950	1951	1952	1953
	\$'000	\$'000	\$'000	\$'000
Public Welfare—				
Health and hospital care.....	215,599	240,765	274,226	297,848
Labour and unemployment insurance.....	60,361	61,343	63,735	66,063
Relief.....	17,708	19,651	17,139	18,346
Old age pensions.....	139,912	168,106	46,679	49,120
Family allowances.....	311,277	322,317	336,496	352,514
Other.....	129,847	137,863	156,878	182,513
Totals, Public Welfare.....	874,704	950,045	895,153	966,404
Education.....	446,190	483,669	570,212	615,863
Transportation.....	489,296	572,890	669,071	713,181
Agriculture.....	202,603	96,243	136,715	145,018
Public domain.....	68,436	112,086	123,730	137,361
National defence.....	759,779	1,400,709	1,864,533	1,792,043
Veterans' pensions and aftercare.....	191,777	198,230	221,966	220,344
Price control and rationing.....	—	205	—	—
Debt charges, net (excluding retirements).....	446,360	518,845	482,734	498,625
Other expenditure.....	621,472	763,191	789,469	818,986
Totals, Expenditure (excluding Inter-governmental Transfers).....	4,100,617	5,096,113	5,753,583	5,907,825

Combined Debt.—Table 5 gives details of combined debt of all governments for 1952 and 1953 with the aggregate debt of the federal, provincial and municipal governments and the inter-governmental debt which is deducted to arrive at a combined government figure. Table 6 shows the combined debt, exclusive of inter-governmental debt, for the years 1950-53 inclusive.

5.—Composition of Total Debt of All Governments 1952 and 1953

Note.—Figures are for fiscal years ended nearest Dec. 31.

Item	1952					1953						
	Federal	Pro- vincial	Muni- cipal	Total	Deduct Inter- gov- ern- mental Debt	Com- bined Gov- ern- mental Debt	Federal	Pro- vincial	Muni- cipal	Total	Deduct Inter- gov- ern- mental Debt	Com- bined Gov- ern- mental Debt
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Direct Debt—												
Funded debt.....	13,280,528	2,451,411 ¹	1,611,184	17,323,123	107,450	17,215,673	13,176,168	2,637,687 ¹	1,844,174	17,658,029	133,847	17,524,182
Less Sinking Funds.....	27,625	423,254	103,274	554,153	—	554,153	101,851	445,972	92,483	640,306	—	640,306
Net funded debt.....	13,252,903	2,028,157	1,507,910	16,788,970	107,450	16,681,520	13,074,317	2,191,715	1,751,691	17,017,723	133,847	16,883,876
Treasury bills ²	1,550,000	42,853	—	1,592,853	—	1,592,853	1,400,000 ³	13,494	—	1,413,494	—	1,413,494
Savings deposits.....	39,322	1,474	—	40,796	—	40,796	37,793	1,856	—	39,649	—	39,649
Temporary loans.....	—	9,311	105,791	115,102	—	115,102	—	989	106,308	107,297	—	107,297
Other direct liabilities.....	3,907,859 ⁴	198,847	211,416	4,318,122	83,351	4,234,771	4,176,071 ⁴	204,888	243,379	4,624,838	35,952	4,588,886
Totals, Direct Debt (less Sinking Funds).....	18,730,084	2,280,642	1,825,117	22,835,843	190,501	22,645,042	18,688,181	2,412,942	2,101,878	23,203,001	169,799	23,033,202
Indirect Debt—												
Guaranteed bonds.....	610,252 ⁵	1,049,107	17,564	1,676,923	24,517	1,652,406	741,475 ⁶	1,201,023	17,080	1,959,578	25,078	1,934,500
Less Sinking Funds.....	4,529	5,301	758	10,588	1,505	9,083	4,490	8,212	815	13,517	1,559	11,958
Net guaranteed bonds.....	605,723	1,043,806	16,806	1,666,335	23,012	1,643,323	736,985	1,192,811	16,265	1,946,061	23,519	1,922,542
Loans under the Municipal Improve- ment Assistance Act 1938.....	—	3,682	—	3,682	3,682	—	—	3,395	—	3,395	3,395	—
Guaranteed bank loans and other indirect liabilities.....	46,377 ⁶	44,636	1,112	92,125	6,656	85,469	120,209 ⁶	47,543	874	168,715	5,660	163,055
Totals, Indirect Debt (less Sinking Funds).....	652,100	1,092,124	17,918	1,762,142	33,550	1,728,792	857,283	1,243,749	17,139	2,118,171	32,574	2,085,597
Grand Totals.....	19,382,184	3,372,766	1,843,035	24,597,985	224,151	24,373,834	19,545,464	3,656,691	2,119,017	25,321,172	202,373	25,118,799

¹ Includes treasury bills having a term of two or more years.² Includes treasury bills having a term of less than two years.³ Includes \$200,000,000 deposit certificates in 1952 and \$750,000 six month treasury notes in 1952 and 1953.⁴ Excludes provincial debt account of \$1,920,000 and includes Unemployment Insurance Fund investments securities of \$851,138,000 in 1952 and of \$878,763,000 in 1953.⁵ Includes guaranteed and unguaranteed bonds of the Canadian National Railways as at Mar. 31, to correspond with fiscal year-end of Federal Government.⁶ Excludes contingent liability in respect of Federal Government guarantee of deposits maintained by chartered banks in the Bank of Canada, miscellaneous guarantees the amount of which were not finally determined or were indeterminate at the close of the fiscal year, and contingent liabilities of the Canadian National Railways.

6.—Combined Debt of All Governments exclusive of Inter-governmental Debt 1950-53

NOTE.—Figures are for fiscal years ended nearest Dec. 31.

Item	1950	1951	1952	1953
	\$'000	\$'000	\$'000	\$'000
Direct Debt—				
Funded debt.....	16,708,748	16,865,386	17,215,673	17,524,182
Less Sinking Funds.....	464,403	494,926	554,153	640,306
Net funded debt.....	16,244,345	16,370,460	16,661,520	16,883,876
Treasury bills.....	1,463,835	1,468,851	1,592,853	1,413,494
Savings deposits.....	39,432	39,579	40,796	39,649
Temporary loans.....	88,985	90,688	115,102	107,297
Other direct liabilities.....	2,786,373	3,580,972	4,234,771	4,588,886
Totals, Direct Debt (less Sinking Funds).....	20,622,970	21,550,550	22,645,042	23,033,202
Indirect Debt—				
Guaranteed bonds.....	1,517,400	1,532,076	1,652,406	1,934,500
Less Sinking Funds.....	33,817	13,063	9,083	11,958
Net guaranteed bonds.....	1,483,583	1,519,013	1,643,323	1,922,542
Guaranteed bank loans and other indirect liabilities.....	102,800	108,977	85,469	163,055
Totals, Indirect Debt (less Sinking Funds).....	1,586,383	1,627,990	1,728,792	2,085,597
Grand Totals.....	22,209,353	23,178,540	24,373,834	25,118,799

Section 2.—Federal Public Finance

A sketch of public finance from the French régime to the outbreak of World War I appears in the 1941 Year Book, pp. 742-743. Detailed sketches *re* tax changes from 1914 to 1938 will be found in issues of the Year Book beginning with the 1926 edition. An outline of the financing of Canada's war effort, including the more important changes in taxation during the war years from 1939 to 1945, is given in the 1945 Year Book, pp. 918-923. Budgets for the years ended Mar. 31, 1946-55 will be found in issues of the Year Book beginning with the 1946 edition. The most important postwar Budget changes, up to and including the 1952-53 Budget, are summarized in the 1952-53 Year Book, pp. 1026-1030. The postwar financial policy of the Government of Canada is outlined in the 1954 Year Book at pp. 1061-1064.

The 1955-56 Budget.—The Budget for 1955-56 was presented to Parliament by the Minister of Finance on Apr. 5, 1955. A number of tax changes were proposed, the more important of which are outlined briefly as follows:—

A reduction was made in the rates of personal income tax; each of the rates in the graduated rate schedule was lowered by two percentage points. This meant a reduction in tax ranging from 13.3 p.c. for lower income taxpayers to 2.8 p.c. for those with large incomes. The reduction became effective on July 1, 1955 so that for the calendar year 1955 the amount of the reduction was only one-half the percentages referred to above.

The rate of tax on taxable income of corporations in excess of \$20,000 was reduced from 47 p.c. to 45 p.c. and the reduction applied to income earned after Jan. 1, 1955.

The law was amended to provide that future rentals from real property would be taxed as income from carrying on a business rather than as income from investments. Also future expenses of printing, professional fees and other costs incurred by a business incidental to borrowing money or issuing shares would be deductible as a business expense.

The right of investment companies to elect to be taxable or exempt was withdrawn and all investment companies are required to pay a tax of 20 p.c. on their taxable income. The rules under which a corporation can qualify as a "non-resident owned investment corporation" or a "foreign business corporation" were made more restrictive.

In the field of commodity taxes the special excise tax on passenger automobiles was reduced from 15 p.c. to 10 p.c. and the 10 p.c. special excise tax on tires and tubes was repealed.

A number of items were added to the schedule of articles exempt from the general sales tax including materials to be used in the manufacture or production of feeds for poultry, livestock or fur-bearing animals; creosote oil and other wood preservatives for use in the treatment of timber, poles and lumber; materials to be used in the production of terrazzo flooring; perforated fibre drainage pipe four inches or under in diameter; rims for kitchen sinks; floor tile and wall paper.

The Budget resolutions contained proposals regarding approximately 80 tariff items. A number of these were amendments to remove uncertainties and administrative difficulties but there were also tariff reductions affecting a wide range of items including chemicals used in animal foodstuffs, poultry processing equipment, fishing vessels, processing equipment used by the fishing industry, dentists' chairs, aircraft parts, and articles and materials used in the training of mentally retarded children. After considering a report of the Tariff Board, a duty of 7½ p.c. was imposed on polyethylene resins and on phenol-aldehyde resins. Also on the recommendation of the Tariff Board, a common duty of 10 p.c. was placed on ethylene glycol used in making anti-freeze and the duty on finished anti-freeze was reduced from 20 p.c. to 15 p.c.

No change was made in old age security taxes. It was announced that the deficit of \$46,000,000 incurred in the Old Age Security Fund during the year ended Mar. 31, 1954 and carried as a temporary loan would be charged to 1954-55 expenditures and that the deficit incurred in 1954-55 estimated at \$62,000,000 would be charged to 1955-56 expenditures.

All the tax changes announced were estimated to result in a loss of revenue of about \$207,000,000 in a full year and \$148,000,000 in the year ended Mar. 31, 1956.

Subsection 1.—Balance Sheets of the Federal Government

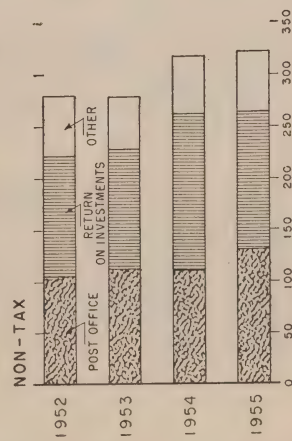
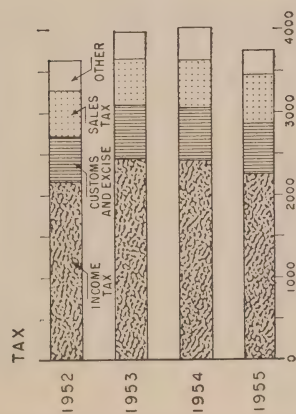
Table 7 shows the balance sheets of the Federal Government as at Mar. 31, 1954 and 1955. The figures of this table are on a basis not strictly comparable to those in previous Year Books.

REVENUE AND EXPENDITURE OF THE FEDERAL GOVERNMENT

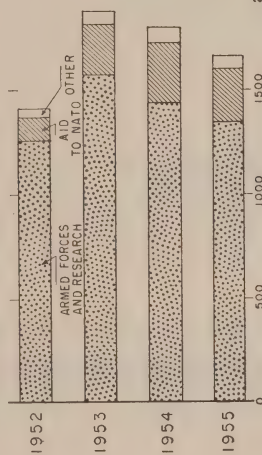
1952 - 55

BY MAIN CLASS
(MILLION DOLLARS)

A-REVENUE

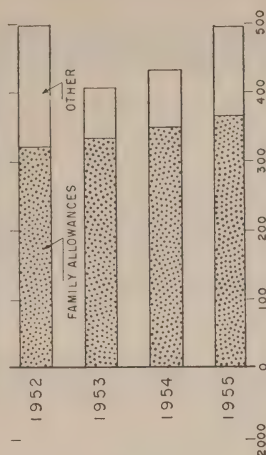


NATIONAL DEFENCE

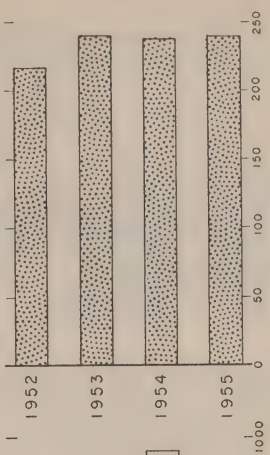


B-EXPENDITURE

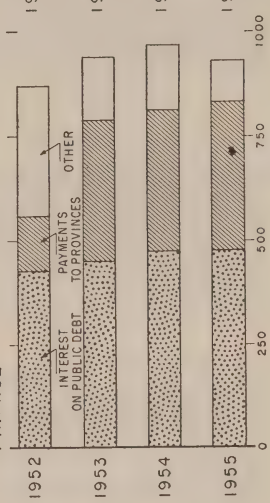
NATIONAL HEALTH AND WELFARE



VETERANS AFFAIRS



FINANCE



7.—Balance Sheet of the Federal Government as at Mar. 31, 1954 and 1955

Item	1954	1955
	\$	\$
Assets		
Current Assets—		
Cash in current and special deposits.....	359,909,146	231,045,677
Cash in hands of collectors and in transit.....	123,643,105	126,187,337
Departmental Working Capital Advances and Revolving Funds—		
Defence Production Revolving Fund.....	80,243,742	72,756,158
Other.....	77,747,706	72,911,128
Other Current Assets—		
Monies received after Mar. 31 but applicable to the current year.....	22,466,483	17,046,026
Securities investment account.....	18,012,950	45,636,632
	682,023,132	565,582,958
Advances to the Exchange Fund Account.....	1,955,000,000	1,980,000,000
Sinking fund and other investments held for retirement of unmatured debt....	101,850,768	190,890,503
Loans to and Investments in Crown Corporations—		
Canadian National Railways.....	1,027,445,274	934,004,940
Central Mortgage and Housing Corporation—capital and loans.....	531,350,210	575,010,188
National Harbours Board.....	106,157,427	107,210,354
Miscellaneous.....	152,628,871	177,253,319
	1,817,581,782	1,793,478,801
Loans to National Governments.....	1,692,066,920	1,620,825,611
Other Loans and Investments—		
Canada's Subscription to Capital of—		
International Monetary Fund.....	322,502,497	293,394,548
International Bank for Reconstruction and Development.....	70,864,349	70,864,349
Working capital advances to international organizations.....	—	1,667,856
Provincial governments.....	80,067,513	76,693,226
Soldier Settlement and Veterans' Land Act loans (<i>less</i> reserve for conditional benefits).....	161,951,694	162,570,578
Miscellaneous.....	29,990,896	25,879,238
	665,376,949	631,069,795
Province Debt Accounts.....	2,296,152	2,296,152
Deferred Charges—		
Unamortized loan flotation costs.....	70,926,394	67,549,458
Unamortized portion of actuarial deficiency in the superannuation account....	189,000,000	189,000,000
	259,926,394	256,549,458
Suspense Accounts—		
Temporary loan to Old Age Security Fund.....	45,837,905	63,251,655
Miscellaneous.....	310,166	494,732
	46,148,071	63,746,387
Capital Assets.....	—	1
Inactive Loans and Investments.....	81,366,335	80,355,709
Totals, Assets	7,303,636,503	7,184,795,375
<i>Less</i> reserve for losses on realization of assets.....	496,384,065	496,384,065
Net Assets	6,807,252,438	6,688,411,310
Net Debt.....	11,115,937,064	11,263,080,154
	17,923,189,502	17,951,491,464
Liabilities		
Current and Demand Liabilities—		
Outstanding treasury cheques.....	248,685,272	265,559,858
Accounts payable.....	202,437,303	201,906,394
Non-interest bearing notes payable on demand.....	287,991,500	224,591,500
Matured debt outstanding.....	68,247,172	53,715,869
Interest due and outstanding.....	56,339,424	54,233,575
Interest accrued.....	125,424,746	120,180,162
Other current liabilities.....	24,825,148	23,767,571
	993,950,565	943,954,929

7.—Balance Sheet of the Federal Government as at Mar. 31, 1954 and 1955—concluded

Item	1954	1955
	\$	\$
Liabilities—concluded		
Deposit and Trust Accounts.....	159,902,435	154,007,374
Annuity, Insurance and Pension Accounts—		
Government annuities.....	798,454,014	864,543,038
Permanent services pension account.....	217,157,456	277,638,893
Superannuation account.....	656,667,961	733,568,390
Miscellaneous.....	99,967,649	101,682,401
	1,772,247,080	1,977,432,722
Undisbursed Balances of Appropriations to Special Accounts—		
National Defence equipment account (Sect. 3, Defence Appropriation Act, 1950).....	305,722,925	273,875,509
Miscellaneous.....	44,875,397	58,371,066
	350,598,322	332,246,575
Suspense Accounts.....	58,402,881	35,488,042
Province Debt Accounts.....	11,919,969	11,919,969
Unmatured Debt—		
Bonds—		
Payable in Canada.....	12,784,058,110	12,506,630,400
Payable in London.....	51,070,140	51,811,453
Payable in New York.....	341,040,000	348,000,000
Treasury Bills and Notes—		
Payable in Canada.....	1,400,000,000	1,590,000,000
	14,576,168,250	14,496,441,853
Total Liabilities.....	17,923,189,502	17,951,491,464

Subsection 2.—Revenue and Expenditure

In the fiscal year ended Mar. 31, 1955 Federal Government revenue amounted to \$4,124,000,000 compared with \$4,396,000,000 in the previous year, a decrease of \$272,000,000. During the same period expenditure decreased by \$76,000,000 from \$4,351,000,000 to \$4,275,000,000. The excess of expenditure over revenue for the fiscal year was \$152,000,000.

Tax revenue was \$230,000,000 less than the previous fiscal year and non-tax revenue increased \$3,000,000. Special receipts and other credits decreased by \$46,000,000.

8.—Details of Revenue, Years Ended Mar. 31, 1953-55

Revenue	1953	1954	1955
	\$	\$	\$
Ordinary Revenue—			
Tax Revenue—			
Customs import duties.....	389,442,109	407,312,241	397,228,330
Excise duties.....	241,360,370	226,732,460	226,458,438
Income Tax.....	2,473,790,089	2,432,603,505	2,265,297,267
Personal ¹	1,180,025,562	1,187,655,616	1,183,447,835
Corporations ¹	1,240,090,150	1,191,186,598	1,020,585,823
On interest, dividends, rents, and royalties going abroad.....	53,674,377	53,761,291	61,263,609
Sales tax (net) ¹	566,233,167	587,331,544	572,214,713
Succession duties.....	38,070,530	39,137,594	44,768,028
Other taxes.....	288,696,672	310,467,109	267,471,304
Totals, Tax Revenue.....	3,997,592,937	4,003,584,453	3,773,438,080

For footnotes, see end of table.

8.—Details of Revenue, Years Ended Mar. 31, 1953-55—concluded

Revenue	1953	1954	1955
	\$	\$	\$
Ordinary Revenue—concluded			
Non-tax Revenue—			
Post Office.....	111,904,487	110,952,751	131,280,099
Return on investments ¹	116,905,516	151,857,858	133,486,035
Bullion and coinage.....	4,386,195	4,241,246	1,836,149
Other.....	46,938,466	51,134,970	54,634,163
Totals, Non-tax Revenue.....	280,134,664	318,186,825	321,236,446
Totals, Ordinary Revenue.....	4,277,727,601	4,321,771,278	4,094,674,526
Special Receipts and Other Credits.....	83,095,188	74,548,305	28,838,771
Grand Totals, Revenue.....	4,360,822,789	4,396,319,583	4,123,513,300

¹ Excludes tax credited to Old Age Security Fund.
Bank of Canada.

² Includes interest on investments, and profits of the

9.—Details of Expenditure, Years Ended Mar. 31, 1953-55

Expenditure	1953	1954	1955
	\$	\$	\$
Agriculture.....	106,710,890	108,361,384	81,804,056
Freight assistance of western feed grains.....	20,661,349	16,998,752	18,997,834
Other.....	86,049,541	91,362,632	62,806,222
Atomic Energy Control Board.....	12,948,027	12,700,987	14,983,927
Auditor General's Office.....	576,211	614,880	672,474
Canadian Broadcasting Corporation.....	8,235,311	24,996,275	29,236,931
Chief Electoral Officer.....	464,487	5,527,130	312,058
Citizenship and Immigration.....	23,646,348	25,481,123	27,968,175
Civil Service Commission.....	1,909,508	2,051,348	2,333,042
Defence Production.....	88,817,141	47,898,563	18,878,447
Capital assistance to defence industry.....	79,079,453	37,824,896	9,710,542
Other.....	9,737,688	10,073,667	9,167,905
External Affairs.....	39,251,463	45,718,964	43,777,922
Finance.....	946,967,875	971,375,876	934,075,801
Public Debt Charges—			
Interest on public debt.....	451,339,521	476,061,625	477,914,894
Annual amortization of bond discounts and commissions.....	11,981,727	17,796,353	22,369,523
Servicing of public debt.....	508,411	604,406	775,001
Cost of loan flotation.....	1,089,578	1,265,762	1,255,925
Totals, Public Debt Charges.....	464,919,237	495,728,146	502,315,343
Provincial subsidies and tax rental payments.....	338,699,912	340,967,635	359,042,900
Government contribution to Civil Service Superannuation Account.....	38,801,864	54,450,620	37,381,978
Reserve for possible losses on realization of active assets.....	75,000,000	50,000,000	—
Other.....	29,546,802	30,229,475	35,335,580
Fisheries.....	10,776,926	9,254,771	11,151,813
Governor General and Lieutenant-Governors.....	399,924	399,086	400,385
Insurance.....	448,619	492,239	477,088
Justice, including Penitentiaries.....	14,908,495	15,017,396	16,423,823
Labour.....	67,021,861	67,561,441	69,771,586
Unemployment Insurance Act, administration and Government contribution.....	56,168,359	57,919,075	59,939,615
Government annuities (payment required to maintain reserve).....	743,617	98,911	371,521
Other.....	10,109,885	9,543,455	9,490,450
Legislation.....	6,157,261	5,600,210	6,654,556
Mines and Technical Surveys.....	29,658,169	38,536,620	43,747,296

For footnotes, see end of table, p. 1057.

9.—Details of Expenditure, Years Ended Mar. 31, 1953-55—concluded

Expenditure	1953	1954	1955
	\$	\$	\$
National Defence.....	1,882,418,468	1,805,914,922	1,665,968,960
Mutual Aid to NATO countries.....	235,053,327	289,707,406	253,879,789
Other.....	1,647,365,141	1,516,207,516	1,412,589,171
National Film Board.....	2,919,779	2,997,528	3,430,589
National Health and Welfare.....	406,564,698	430,533,808	496,699,592
General health grants.....	27,333,354	29,183,929	31,697,427
Family allowances.....	334,197,685	350,113,902	366,465,965
Old age assistance and allowances to blind persons ¹	22,099,463	23,202,285	24,174,701
Deficit Old Age Security Fund.....	—	—	45,837,905
Other.....	22,934,196	28,033,692	28,623,694
National Research Council.....	15,395,339	15,398,844	15,700,525
National Revenue.....	47,313,178	49,937,839	55,010,594
Northern Affairs and National Resources.....	35,557,644 ²	19,118,141	20,155,118
Post Office.....	105,553,191	113,581,752	123,611,055
Privy Council including Prime Minister's Office.....	3,720,571	3,732,910	3,800,361
Public Archives.....	306,714	346,910	421,302
Public Printing and Stationery.....	1,607,237	2,036,771	2,068,013
Public Works.....	81,847,470	114,956,865	130,780,634
Trans-Canada Highway contributions.....	3	13,378,998	18,133,982
Other.....	81,847,470	101,577,867	112,646,652
Royal Canadian Mounted Police.....	31,141,321	33,845,572	35,549,795
Secretary of State.....	2,201,462	3,278,154	2,671,242
Trade and Commerce.....	16,502,669	16,526,422	17,494,834
Transport.....	103,905,716	118,012,795	159,241,707
Veterans Affairs.....	241,424,539	238,714,852	240,089,187
Grand Totals, Expenditures.....	4,337,275,512	4,350,522,378	4,275,362,888

¹ Pensions under the Old Age Security Act 1951 (effective January 1952) are paid out of the Old Age Security Fund account and are not recorded under departmental expenditure. See pp. 279-281. ² Department of Resources and Development in 1953. ³ Under Department of Resources and Development in 1953 when expenditure amounted to \$13,952,545.

Subsection 3.—Analysis of Revenue from Taxation

Table 10 gives a comparison of total expenditure with taxation revenue and total revenue for each of the fiscal years ended Mar. 31 since 1951. During the war years expenditure far exceeded revenue but in 1947 taxation met over 92 p.c. of expenditure and revenue from all sources exceeded expenditure. For 1948 and 1949 revenue from taxation alone exceeded total expenditure by a substantial amount owing to the maintenance of high taxation levels and a greatly increased national income. Since that time the percentage of taxation revenue to total expenditure has gradually decreased.

10.—Relationship of Total Expenditure to Taxation Revenue and to Total Revenue, Years Ended Mar. 31, 1951-55

NOTE.—Figures for 1940-46 are given in the 1951 Year Book, p. 989 and for 1947-50 in the 1954 edition, p. 1071.

Year	Total Expenditure	Taxation Revenue	Total Revenue	Percentage to Total Expenditure of—	
				Taxation Revenue	All Revenue
	\$	\$	\$	p.c.	p.c.
1951.....	2,901,241,693	2,785,349,899	3,112,535,948	96.01	107.28
1952.....	3,732,875,250	3,657,775,082	3,980,908,652	97.99	106.64
1953.....	4,337,275,512	3,997,592,937	4,360,822,789	92.17	100.54
1954.....	4,350,522,378	4,003,584,453	4,396,319,533	92.03	101.05
1955.....	4,275,362,888	3,773,438,080	4,123,513,300	88.26	96.48

The following analysis of taxation revenue is confined to excise duties, excise taxes, income tax and succession duties; customs receipts constitute a single item in the *Public Accounts* and are not further analysed here.

Excise Duties

Excise duties proper are presented below with a summary of the excise tariff and statistics arising as a byproduct of administration, such as the quantities of grain and other products used in distillation and the quantities of goods taken out of bond and subject to excise tax.

Canadian Excise Tariff.—The following is a statement of the Canadian excise tariff, as at Dec. 15, 1955:—

Spirits.....	per proof gal.	\$12-00	Canadian brandy.....	per proof gal.	\$10-00
Spirits used by licensed bonded manufacturers.....	per proof gal.	1-50	Malt, all, when brought into a brewery.....	per lb.	Free
Spirits used in bond for manufacture of perfume.....	per proof gal.	Free	Beer, all.....	per Imp. gal.	0-38
Spirits used in bond for manufacture of approved chemical compositions.....	per proof gal.	0-15	Tobacco, manufactured, all descriptions except cigarettes.....	per lb.	0-35
Spirits sold to druggists licensed under the Excise Act to be used exclusively in preparation of prescriptions for medicines and pharmaceutical preparations.....	per proof gal.	1-50	Cigarettes, weighing not more than two and one-half pounds.....	per M	4-00
Spirits distilled from wine produced from native fruits, and used in any bonded manufactory for the treatment of domestic wine.....	per proof gal.	Free	Cigarettes, weighing more than two and one-half pounds.....	per M	5-00
Spirits imported and taken into a bonded manufactory (in addition to duties otherwise imposed)....	per proof gal.	0-30	Cigars, all.....	per M	1-00
Spirits used directly in the manufacture of toilet preparations or cosmetics on which excise tax is applicable under Schedule I of the Excise Tax Act.....	per proof gal.	Free	Raw leaf tobacco, imported, now dutiable under the customs tariff only.		
			Canadian raw leaf tobacco, when sold for consumption.....	per lb.	0-20

A drawback of 99 p.c. of the duty may be granted when domestic spirits, testing not less than 50 p.c. over proof, are delivered in limited quantities for medicinal or research purposes to universities, scientific or research laboratories, bona fide public hospitals, or health institutions in receipt of federal and provincial government aid.

11.—Gross Excise Duties Collected, Years Ended Mar. 31, 1951-55

Item	1951	1952	1953	1954	1955
	\$	\$	\$	\$	\$
Spirits.....	60,126,300	45,944,724	48,627,965	69,194,020	72,185,407
Validation fee.....	1,108,252	1,223,933	746,877	—	—
Beer or malt liquor.....	2,745,851	3,812,065	5,294,283	4,799,823	72,676,281
Malt.....	65,409,427	73,748,003	80,584,283	78,733,288	1,151,032 ¹
Tobacco and cigarettes.....	114,282,662	100,547,951	116,701,207	96,724,855	100,511,808
Cigars.....	203,945	162,968	212,817	245,862	241,177
Licences.....	38,009	36,092	38,183	36,519	36,826
Totals².....	243,914,446	225,475,736	252,205,615	249,734,366	246,802,531

¹ Tax on malt replaced by gallonage tax on beer.

² These totals do not agree with net excise duties as shown in Table 8 owing to refunds and drawbacks and, for spirits, a transfer tax which is included here.

Statistics of Licences and Distillation.—As a result of the collection of excise duties, statistics are compiled of excise licences issued and of distillation.

12.—Statistics of Licences and Distillation, Years Ended Mar. 31, 1951-55

Item	1951	1952	1953	1954	1955
Licences issued.....No.	28	29	29	29	30
Licence fees.....\$	8,000	7,375	7,750	7,500	8,000
Grain, etc., used for distillation—					
Malt.....lb.	31,914,170	33,688,521	31,169,426	34,770,622	37,438,384
Indian corn.....“	209,060,163	211,851,336	193,629,683	223,715,461	233,470,614
Rye.....“	32,137,858	29,427,040	30,404,971	42,888,000	40,697,817
Wheat and other grain.....“	13,174,382	17,925,256	17,996,080	828,440	26,448,064
Totals, Grain Used.....lb.	286,286,573	292,892,153	273,200,160	302,202,523	338,054,879
Molasses used.....lb.	32,836,406	26,989,288	22,614,185	21,965,692	31,922,119
Wine and other materials.....“	8,496,194	8,330,301	4,674,714	3,696,117	5,721,010
Sulphide liquor.....gal.	86,454,960	99,344,940	98,380,740	394,040,231	370,916,068
Proof spirits manufactured..proof gal.	23,551,259	24,742,386	22,517,166	24,710,625	27,330,433

The quantity of spirits manufactured has fluctuated greatly since 1920, varying from a low of 2,356,329 proof gal. in that year to a high of 35,555,059 proof gal. recorded in 1945.

Alcohol and Tobacco Taken Out of Bond.—The amounts of beverage spirits, malt beer, malt, cigars, cigarettes and other tobacco taken out of bond for consumption are given in Table 35, p. 938.

Excise Taxes Collected

The statistics given in Table 13 represent gross excise tax collection by the Excise Division of the Department of National Revenue.

13.—Excise Taxes Collected by Commodity and Province, Years Ended Mar. 31, 1951-55

(Accrued Revenue)

Commodity	1951	1952	1953	1954	1955
Commodity	\$	\$	\$	\$	\$
Domestic—					
Automobiles, tires and tubes.....	59,791,585	89,111,798	78,810,971	92,498,632	71,356,616
Beverages.....	7,187,086	19,159,576	12,342,608	11,577,882	8,078,328
Candy and chewing gum.....	9,914,041	10,845,824	11,216,434	11,812,938	9,121,728
Carbonic acid gas.....	150,827	377,207	214,538	220,859	158,453
Cigarette papers and tubes.....	7,369,511	382,121	...	...	...
Cigars, cigarettes and tobacco.....	84,203,237	104,806,864	100,678,509	110,946,708	112,677,653
Electrical and gas apparatus.....	1,607,101	3,731,560	3,269,802	3,701,518	406,613
Embossed cheques (departmental)...	391,377	433,667	334,884	...	...
Furs.....	4,165,195	4,221,849	5,213,346	3,366,217	54,591
Licences.....	85,831	81,663	86,768	86,568	84,160
Lighters.....	242,495	320,122	235,889	218,211	124,684
Matches.....	755,311	1,387,225	1,071,159	1,019,072	656,642
Other manufactures' tax.....	9,235,677	22,779,222	13,176,366	11,200,616	4,907,621
Phonographs, radios and tubes.....	5,372,408	7,912,329	10,085,974	15,874,817 ¹	20,521,374 ¹
Playing cards.....	834,400	665,200	723,600	709,600	649,915
Sales, domestic.....	406,550,795	521,173,389	611,362,280	633,817,293	616,558,675
Stamps.....	10,553,385	10,912,768	10,226,135	...	...
Toilet preparations.....	4,452,144	8,233,581	6,961,538	6,768,726	5,016,582
Wines.....	2,224,885	2,167,267	2,215,540	2,230,673	2,354,267
Penalties and interest.....	286,513	381,055	374,691	309,888	342,250
Totals, Domestic.....	615,173,804	809,084,287	868,601,032	906,360,218	853,070,152
Imported.....	82,100,696	114,865,035	135,346,520	146,539,166	137,438,524
Grand Totals².....	697,274,500	923,949,323³	1,003,947,546³	1,052,899,387³	990,508,676³

For footnotes, see end of table.

13.—Excise Taxes Collected by Commodity and Province, Years Ended Mar. 31, 1951-55—concluded

Province	1951	1952	1953	1954	1955
	\$	\$	\$	\$	\$
Province					
Newfoundland.....	3,071,105	4,222,529	4,731,662	4,626,420	4,082,118
Prince Edward Island.....	192,576	294,581	319,600	270,371	282,095
Nova Scotia.....	8,237,983	11,085,795	12,567,288	12,133,679	11,573,443
New Brunswick.....	5,410,375	7,020,959	7,565,327	7,560,701	6,864,125
Quebec.....	259,597,052	330,235,421	355,969,247	367,621,043	364,840,069
Ontario.....	364,386,263	493,684,889	532,863,493	571,852,942	520,162,390
Manitoba.....	16,957,296	23,477,085	26,006,361	25,871,465	22,994,442
Saskatchewan.....	4,068,319	5,780,443	6,897,755	7,533,164	7,622,663
Alberta.....	8,716,339	13,415,997	17,592,743	17,654,558	16,193,721
British Columbia.....	26,010,974	33,957,805	38,800,329	37,430,555	35,572,932
Yukon Territory.....	180,873	267,536	279,666	290,982	288,770
General for Canada—					
Departmental sales.....	391,376	433,668	334,884	...	...
Miscellaneous.....	52,484	71,452	17,695	51,712	29,361
British post office parcels.....	1,485	1,163	1,495	1,796	2,546

¹ Total includes tax on television sets and tubes of \$11,340,860 in 1954 and \$16,668,388 in 1955.
² Includes refunds and drawbacks.

³ Includes 2 p.c. sales tax.

Income Tax

Income Tax Collections by the Department of National Revenue on a Fiscal Year Basis.—Statistics of income tax collections are gathered at the time the payments are made and are therefore up-to-date. Over 85 p.c. of individual taxpayers are wage or salary earners who have almost the whole of their tax liability deducted at the source by their employers. All other taxpayers are required to pay most of their estimated tax during the taxation year. As a result most of the tax is collected during the same year in which the related income is earned and only a limited residue remains to be collected when the returns are filed. The collections for a given fiscal year include tax deductions and instalments for twelve months, embracing portions of two taxation years, and a mixture of year-end payments for the first of these years and for the preceding year, and cannot therefore be closely related to the statistics for a given taxation year. As little information about a taxpayer is received when the payment is made and as a single cheque from one employer may frequently cover the tax payments of hundreds of employees, the payments cannot be statistically related to taxpayers by occupation or income. Descriptive classifications of taxpayers are available only from tax returns but collection statistics, if interpreted with the current tax structure and the above factors in mind, indicate the trend of income in advance of the final compilation of statistics.

The statistics given in Table 14 pertain to tax collections by the Taxation Division of the Department of National Revenue. The collections are for fiscal years ended Mar. 31.

14.—Taxes Collected by the Taxation Division of the Department of National Revenue, Years Ended Mar. 31, 1947-55

NOTE.—Figures for 1917-34 are given in the 1947 Year Book, pp. 999-1000, for 1935-46 in the 1951 edition, p. 994.

Year Ended Mar. 31—	Income Tax			Excess Profits Tax	Succession Duties	Total Collections
	Individual	Corporation	Total			
	\$	\$	\$	\$	\$	\$
1947.....	724,666,292 ¹	238,791,953	963,458,245 ¹	448,697,443 ¹	23,576,071	1,435,731,759 ¹
1948.....	695,717,243	364,131,114	1,059,848,357	227,030,494	30,828,040	1,317,706,891
1949.....	806,009,280	491,990,124	1,297,999,404	44,791,918	25,549,777	1,368,341,099
1950.....	669,457,059	603,193,132	1,272,650,191	-1,788,387 ²	29,919,780	1,300,781,584
1951.....	713,938,999	799,196,511	1,513,135,510	10,140,910	33,599,089	1,556,875,509
1952.....	1,030,793,334 ³	1,132,680,074 ³	2,163,473,408 ³	2,364,909	38,207,985	2,204,046,302
1953.....	1,278,949,939 ³	1,276,940,150 ³	2,555,890,089 ³	—	38,070,529	2,593,960,618
1954.....	1,332,116,907 ³	1,246,786,598 ³	2,578,903,505 ³	—	39,137,594	2,618,041,099
1955.....	1,345,611,443 ³	1,066,585,823 ³	2,412,197,266 ³	—	44,768,029	2,456,965,295

¹ Includes refundable portion of taxes. ² Refunds arising out of renegotiation of war contracts were in excess of collections. ³ Includes old age security tax.

Individual Income Tax Statistics.—Individual income tax statistics are presented in Table 15 on a calendar year basis and are compiled from a 10 p.c. sample of all returns received. Taxpayers are shown for certain selected cities and occupational classifications.

15.—Number of Taxpayers and Amounts of Income and Tax by Selected Cities and Occupational Class 1953

City	Tax- payers	Total Income Assessed	Tax Payable ¹	Class	Tax- payers	Total Income Assessed	Tax Payable ¹
City	No.	\$'000	\$'000	Occupational Class	No.	\$'000	\$'000
St. John's, Nfld.	14,870	50,077	5,133	Primary Producers....	74,390	288,542	25,989
Halifax.....	33,750	106,291	9,634	Farmers.....	69,200	267,737	23,621
Saint John.....	17,840	54,367	4,826	Forestry operators....	1,720	7,957	1,130
Montreal.....	452,510	1,608,135	174,340	Fishermen.....	3,470	12,848	1,238
Quebec.....	43,280	143,377	12,960				
Sherbrooke.....	11,550	35,969	2,848				
Ottawa.....	78,030	269,580	29,359				
Toronto.....	515,950	1,828,107	218,928	Professionals.....	34,640	280,508	57,460
Oshawa.....	17,810	62,836	6,327	Accountants.....	2,630	21,292	4,049
Hamilton.....	96,980	338,327	36,710	Medical doctors.....	10,140	114,152	26,078
St. Catharines.....	21,220	76,026	7,855	Dentists.....	4,460	33,383	5,363
Niagara Falls.....	17,050	60,795	6,277	Lawyers and notaries..	5,390	53,656	12,291
Kitchener and Waterloo	27,740	89,563	9,235	Engineers and archi- tects.....	2,150	22,122	5,401
London.....	42,740	140,415	14,230	Entertainers.....	1,990	8,465	1,066
Windsor.....	51,060	180,798	18,123	Osteopaths, etc.....	1,440	7,976	1,105
Sudbury and Copper Cliff.....	20,130	74,226	7,863	Nurses.....	3,720	7,004	481
Fort William and Port Arthur.....	27,990	90,740	7,855	Other professionals...	2,720	12,458	1,622
Winnipeg.....	123,490	402,952	39,798				
Regina.....	30,100	98,362	9,836	Employees.....	2,988,730	9,392,446	839,068
Saskatoon.....	20,420	66,979	6,683	Salesmen.....	39,790	185,625	22,503
Calgary.....	58,990	210,187	24,041	Business proprietors...	167,250	857,181	127,640
Edmonton.....	74,290	250,262	25,591	Investors.....	62,230	370,175	66,034
Vancouver.....	169,320	594,035	63,824	Pensioners.....	9,110	27,690	2,017
New Westminster.....	22,070	72,851	6,656	All others.....	13,390	64,554	6,551
Victoria.....	34,350	120,117	11,612				
Other localities.....	1,366,000	4,441,347	386,718				
Totals.....	3,389,530	11,466,721	1,147,262	Grand Totals.....	3,389,530	11,466,721	1,147,262

¹ Includes old age security tax.

16.—Individual Income Tax Statistics by Income Class 1952 and 1953

Income Class	Taxpayers		Total Income Assessed		Tax Payable		Average Tax	
	1952	1953	1952	1953	1952 ¹	1953 ¹	1952 ¹	1953 ¹
	No.	No.	\$'000	\$'000	\$'000	\$'000	\$	\$
Under \$1,000.....	24,550	33,710	15,633	20,585	1,027	1,373	42	41
\$1,000 to \$1,100.....	53,210	55,200	56,443	58,575	746	835	14	15
\$1,100 to \$1,200.....	67,890	66,340	78,422	76,353	1,794	1,713	26	26
\$1,200 to \$1,300.....	69,860	70,910	87,124	88,282	2,878	2,836	41	40
\$1,300 to \$1,400.....	71,100	71,980	95,822	97,147	4,110	4,124	58	57
\$1,400 to \$1,500.....	71,360	71,210	103,275	103,174	5,344	5,168	75	72
\$1,500 to \$1,600.....	77,950	77,130	120,591	119,456	6,893	6,605	88	86
\$1,600 to \$1,700.....	75,630	76,400	124,690	125,803	7,870	7,605	104	100
\$1,700 to \$1,800.....	76,660	78,470	133,889	137,168	9,196	9,143	120	117
\$1,800 to \$1,900.....	77,310	78,960	142,762	145,729	10,473	10,353	135	131
\$1,900 to \$2,000.....	71,160	76,120	138,934	148,141	10,855	11,208	153	147
\$1,000 to, but not including, \$2,000..	712,130	722,720	1,081,952	1,099,828	60,159	59,580	84	82

¹ Includes old age security tax.

16.—Individual Income Tax Statistics by Income Class 1952 and 1953—concluded

Income Class	Taxpayers		Total Income Assessed		Tax Payable		Average Tax	
	1952	1953	1952	1953	1952 ¹	1953 ¹	1952 ¹	1953 ¹
	No.	No.	\$'000	\$'000	\$'000	\$'000	\$	\$
\$2,000 to \$2,100.....	78,090	83,130	160,015	170,202	11,373	12,183	146	147
\$2,100 to \$2,200.....	82,860	85,060	178,133	182,651	12,531	12,607	151	148
\$2,200 to \$2,300.....	89,810	89,450	201,849	200,885	13,764	13,846	153	155
\$2,300 to \$2,400.....	94,110	92,240	221,006	216,461	14,338	14,426	152	157
\$2,400 to \$2,500.....	102,770	101,530	251,558	248,368	15,724	16,291	153	160
\$2,500 to \$2,600.....	106,350	102,760	271,173	261,568	16,881	16,791	159	163
\$2,600 to \$2,700.....	109,900	108,620	290,894	287,345	17,623	18,005	160	166
\$2,700 to \$2,800.....	109,880	108,360	301,936	297,648	18,505	18,689	168	172
\$2,800 to \$2,900.....	107,660	109,290	306,398	311,084	18,582	19,645	173	180
\$2,900 to \$3,000.....	105,090	111,050	309,852	327,201	19,312	21,003	184	189
\$2,000 to, but not including, \$3,000.	986,520	991,490	2,492,814	2,503,381	158,633	163,486	161	165
\$3,000 to \$3,500.....	481,220	519,120	1,556,341	1,680,313	105,007	113,955	218	220
\$3,500 to \$4,000.....	327,530	384,500	1,220,110	1,432,531	95,946	111,791	293	291
\$4,000 to \$4,500.....	191,550	236,330	809,162	997,780	73,403	88,685	383	375
\$4,500 to \$5,000.....	111,660	145,050	527,428	685,150	53,315	67,273	477	464
\$3,000 to, but not including, \$5,000.	1,111,960	1,285,000	4,113,041	4,795,774	327,671	381,704	295	297
\$5,000 to \$6,000.....	113,790	149,290	617,618	809,882	70,591	87,817	620	588
\$6,000 to \$7,000.....	54,790	67,120	352,817	431,741	46,316	52,713	845	785
\$7,000 to \$8,000.....	29,610	36,880	220,593	274,806	31,994	36,345	1,081	985
\$8,000 to \$9,000.....	18,500	22,630	156,228	192,137	24,608	27,866	1,330	1,231
\$9,000 to \$10,000.....	13,610	16,220	128,644	153,847	22,024	23,899	1,618	1,473
\$5,000 to, but not including, \$10,000	230,300	292,140	1,475,900	1,862,413	195,533	228,640	849	783
\$10,000 to \$15,000....	33,740	36,250	406,292	436,854	82,771	79,566	2,453	2,195
\$15,000 to \$20,000....	11,940	13,200	203,799	225,118	53,800	53,038	4,506	4,018
\$20,000 to \$25,000....	5,460	5,760	121,548	128,077	37,761	35,453	6,916	6,155
\$10,000 to, but not including, \$25,000	51,140	55,210	731,639	790,049	174,332	168,057	3,409	3,044
\$25,000 to \$50,000....	6,660	7,310	220,039	240,046	84,155	79,747	12,636	10,909
\$50,000 or over.....	1,840	1,950	143,015	154,645	70,273	64,675	38,192	33,164
\$25,000 or over.....	8,500	9,260	363,054	394,691	154,428	144,422	18,168	15,596
Grand Totals.....	3,125,100	3,389,530	10,274,033	11,466,721	1,071,783	1,147,262	343	338

¹ Includes old age security tax.

Corporation Income Tax Statistics.—Corporation statistics presented in Tables 17 and 18 are on a taxation year basis prior to assessment. The data were extracted and compiled from the returns shortly after they were filed and are as declared by the taxpayer without the scrutiny or revision of the Department of National Revenue. Provincial figures contain an unavoidable bias in favour of Ontario and Quebec because many large corporations operating across Canada file their returns in one or other of these two Provinces.

17.—Summary Statistics for Corporations Reporting a Profit, Taxation Years 1952 and 1953

Item	1952			1953		
	Corporations Reporting	Current Year Profit	Income Tax Declared ¹	Corporations Reporting	Current Year Profit	Income Tax Declared ¹
	No.	\$'000	\$'000	No.	\$'000	\$'000
Active taxable corporations—excluding co-operatives and Crown corporations...	32,432	2,630,897	1,228,819	34,664	2,639,848	1,150,319
Inactive corporations.....	790	699	180	876	711	140
Co-operatives.....	1,999	9,619	3,295	2,000	10,386	3,428
Crown corporations.....	7	12,719	6,579	5	15,025	7,328
Totals, Taxable Corporations.....	35,228	2,653,934	1,238,873	37,545	2,665,970	1,161,215
Personal corporations.....	1,343	21,777	—	1,469	21,624	—
Other exempt corporations ²	2,275	24,744	12	2,644	21,527	11
Grand Totals, Taxable and Exempt...	38,846	2,700,455	1,238,885	41,658	2,709,121	1,161,226

¹ Includes old age security tax, here as tax declared.

² Includes foreign corporations paying \$100 filing fee which is recorded

18.—Distribution of Active Taxable Corporations Reporting a Profit by Income Class, Industry and Province, Taxation Years 1952 and 1953

Income Class, Industrial Division and Province	1952			1953		
	Corporations Reporting	Current Year Profit	Income Tax Declared ¹	Corporations Reporting	Current Year Profit	Income Tax Declared ¹
Income Class	No.	\$'000	\$'000	No.	\$'000	\$'000
Under \$1,000.....	4,693	2,037	312	4,936	2,092	295
\$1,000 to \$2,000.....	2,932	4,294	715	3,149	4,563	698
\$2,000 to \$3,000.....	2,209	5,429	970	2,402	5,927	1,007
\$3,000 to \$4,000.....	1,858	6,434	1,228	1,898	6,562	1,194
\$4,000 to \$5,000.....	1,622	6,798	1,289	1,681	7,507	1,376
\$5,000 to \$10,000.....	6,483	49,175	9,873	5,888	43,124	8,274
\$10,000 to \$15,000.....	2,965	35,519	8,772	3,295	40,348	8,441
\$15,000 to \$20,000.....	1,466	25,405	7,973	2,561	45,014	9,834
\$20,000 to \$25,000.....	1,100	24,582	8,625	1,455	32,176	8,087
\$25,000 to \$50,000.....	2,603	92,437	36,652	2,713	95,891	31,447
\$50,000 to \$100,000.....	1,756	125,246	64,857	1,812	126,174	60,103
\$100,000 to \$250,000.....	1,476	232,351	108,469	1,525	235,797	103,165
\$250,000 to \$500,000.....	639	219,490	103,358	623	218,181	99,992
\$500,000 to \$1,000,000.....	364	250,557	121,610	361	250,552	114,720
\$1,000,000 to \$5,000,000.....	293	599,845	290,737	290	587,716	275,337
Over \$5,000,000.....	73	951,298	473,379	75	938,224	436,349
Totals.....	32,432	2,630,897	1,228,819	34,664	2,639,848	1,150,319
Industrial Division						
Agriculture, fishing and forestry...	568	13,943	5,767	572	10,024	3,418
Mining.....	469	161,600	78,951	507	146,035	67,090
Manufacturing.....	8,233	1,424,785	685,623	9,095	1,446,658	650,896
Construction.....	1,789	66,419	28,471	2,673	105,399	41,538
Public utilities.....	1,681	267,314	125,746	1,805	251,910	112,685
Wholesale trade.....	5,702	252,725	114,747	5,699	206,056	83,290
Retail trade.....	6,280	169,664	72,839	6,515	179,786	75,416
Service.....	3,593	63,071	25,545	3,301	62,566	22,939
Finance.....	4,088	211,135	91,050	4,493	231,408	93,047
Unclassified.....	29	241	80	4	6	—
Province						
Newfoundland.....	377	27,931	13,106	414	24,503	10,776
Prince Edward Island.....	156	3,015	878	159	3,307	1,133
Nova Scotia.....	1,185	50,203	23,279	1,189	38,226	15,992
New Brunswick.....	766	31,279	12,907	766	28,037	12,113
Quebec.....	8,477	827,833	375,478	9,095	820,593	337,436
Ontario.....	11,235	1,234,917	593,806	12,270	1,272,510	576,290
Manitoba.....	1,762	98,791	46,714	1,853	98,262	44,403
Saskatchewan.....	915	20,117	8,403	980	22,369	8,668
Alberta.....	2,325	101,069	45,087	2,522	104,658	43,981
British Columbia.....	5,234	235,742	109,161	5,416	227,383	99,527

¹ Includes old age security tax.

Succession Duties

The first imposition of succession duties in Canada was in 1892, when Nova Scotia, New Brunswick, Quebec and Ontario enacted legislation of this nature. Legislation was passed in the other provinces in the following years: Manitoba, 1893; Prince Edward Island and British Columbia, 1894; Saskatchewan and Alberta, 1905. The Federal Government first imposed succession duties in 1941. Current legislation is the Dominion Succession Duty Act (R.S.C. 1952, c. 89).

In 1947 seven provinces—Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan, Alberta and British Columbia—withdrew from the succession duty field. The seven provinces entered into agreements with the Federal Government to 'rent out' the succession duty field for the period Apr. 1, 1947 to Mar. 31, 1952. Accordingly in these provinces the previous combination of federal and provincial succession duties was replaced by a single federal succession duty at double the previous federal level which, for most provinces, resulted in a combined duty approximately the same as previously levied under the separate federal and provincial duties. The Provinces of Quebec and Ontario did not enter into the agreements but the doubled rates of federal duty were applied and are capable of being reduced up to one-half by a credit for the duty paid to these Provinces. Yukon Territory in 1948 and the Province of Newfoundland in 1949 entered into a similar tax rental agreement.

In 1952 the tax rental agreements expired but new five year agreements were negotiated with the same eight provinces which again elected not to tax in the succession duty field. The Province of Ontario also entered into an agreement on income tax but elected to continue to tax in the succession duty field. Consequently in all the provinces of Canada the situation in regard to succession duty is likely to be the same as that described above until Mar. 31, 1957.

Double taxation of estates resulting from taxation of the same property by more than one Canadian jurisdiction has been common in the past but with the withdrawal of eight of the provinces from the field and an interprovincial agreement between Ontario and Quebec, the credit provision of the federal legislation has reduced this problem considerably. In the international field dual taxation has been dealt with by way of tax conventions. A tax convention between Canada and the United States was signed on June 8, 1944 and amended effective Nov. 21, 1951. An agreement respecting succession duties was signed June 5, 1946 between Canada and the United Kingdom. A convention between Canada and France, signed on Mar. 16, 1951, came into effect on July 2, 1953.

Table 19 shows the receipts of the various governments from succession duties for 1953-56.

19.—Federal and Provincial Net Revenue from Succession Duties, Years Ended Mar. 31, 1953-56

NOTE.—Statistics for 1948-52 are given in the 1954 Year Book, p. 1080.

Province	1953	1954	1955	1956
	\$'000	\$'000	\$'000	\$'000
Federal.....	38,071	39,138	44,768	45,000
Provincial— ¹				
Newfoundland.....	—	—	—	—
Prince Edward Island.....	1	—	—	—
Nova Scotia.....	12	5	2	2
New Brunswick.....	1	6	—	—
Quebec.....	12,833	10,913	13,000	12,000
Ontario.....	19,821	20,164	23,000	18,000
Manitoba.....	8	5	3	3
Saskatchewan.....	13	23	23	—
Alberta.....	36	17	5	5
British Columbia.....	—	—	—	—

¹ Under terms of the 1952 Dominion-Provincial Taxation Agreements all provinces except Ontario and Quebec refrain from levying succession duties; amounts shown in other provinces are arrears. Provincial figures for 1955 are preliminary; figures for 1956 are estimates only.

Federal Duty.—Beneficiaries are divided into four classes as follows:—

- (1) Widow or dependent child or dependent grandchild.
- (2) Husband; parent; grandparent; child over 18 years of age, not infirm; son- or daughter-in-law.
- (3) Lineal ancestor other than parent or grandparent; brother, sister or their descendant; uncle or aunt or their descendant.
- (4) Others.

No federal duty is payable on estates not exceeding \$50,000 or on bequests of up to \$1,000 to any one individual, nor is duty levied on gifts to the Federal Government or provinces, on residential property of certain diplomatic or consular officials, on pensions administered by the Canadian Pensions Commission or those payable by allied nations for war services, nor on insurance moneys or annuities if the person with whom the contract was made was domiciled outside Canada at the time of death. Provision is made for increased exemptions and reduced duties for those dying as a result of war service. Bequests to non-profit charitable organizations in Canada are exempt.

Widows are exempt up to \$20,000, dependent children to \$5,000 each and, where dependent children do not benefit, the widow's exemption is increased by \$5,000 for each child who does not benefit. For dependent orphaned children, there is a further exemption of \$15,000 (in addition to \$5,000) divisible proportionately among such orphans according to their number and the value of each individual benefit. Duty is payable on the excess only when the limit is passed, i.e., these exemptions are deductible exemptions.

Gifts made during the lifetime of the deceased are exempt if the transfer was carried out more than three years prior to his death and the recipient of such gifts secured full possession at the time of the transfer and the donor (the deceased) thereafter did not retain any rights therein or secure any benefits therefrom.

If gift tax payable under the provisions of the Income Tax Act has been paid in connection with the transfer made by a deceased person during his lifetime then no succession duty is payable in respect of such gift except to the extent that succession duty thereon is in excess of the gift tax.

The difficulties of working out succession duty tables to show the combined effects of federal and provincial duties are readily realized. The best that can be done here is to choose typical estates in the main classes laid down in the legislation and give examples of the combined duties applicable to them. This has been attempted in Tables 20, 21 and 22.

Examples of the rates of duty and duty levied are given in Table 20.

20.—Occurrence of Succession Duties in all Provinces (except Quebec and Ontario) on Typical Estates

Class	Aggregate Net Value	Dutiable Value	Rate	Duty
	\$	\$	p.c.	\$
A. Widow only.....	60,000	40,000	10.6	4,240
	100,000	80,000	14.7	11,760
	300,000	280,000	26.7	74,760
	500,000	480,000	32.7	156,960
	1,000,000	980,000	38.7	379,260
B. Only child over 25 years.....	60,000	60,000	11.9	7,140
	100,000	100,000	16.7	16,700
	300,000	300,000	28.7	86,100
	500,000	500,000	34.7	173,500
	1,000,000	1,000,000	40.7	407,000

**20.—Occurrence of Succession Duties in all Provinces (except Quebec and Ontario)
on Typical Estates—concluded**

Class	Aggregate Net value	Dutiable Value	Rate	Duty
	\$	\$	\$	\$
C. Brother or sister.....	60,000	60,000	13·9	8,340
	100,000	100,000	18·7	18,700
	300,000	300,000	30·7	92,100
	500,000	500,000	36·7	183,500
	1,000,000	1,000,000	42·7	427,000
D. Stranger.....	60,000	60,000	15·9	9,540
	100,000	100,000	20·7	20,700
	300,000	300,000	32·7	98,100
	500,000	500,000	38·7	193,500
	1,000,000	1,000,000	44·7	447,000

Occurrence of Combined Federal and Provincial Succession Duties.—Only the Provinces of Quebec and Ontario have retained their own succession duties. In Tables 21 and 22, for all classes of beneficiaries, the duties collectable are shown where an estate of given value is left to one beneficiary only. It would be impossible to cover the many different combinations of the various beneficiaries and the exemptions and saving clauses to be found in the legislation of the respective provinces. Each estate is moreover assumed to be wholly situated within the province and the beneficiary domiciled therein to be the sole heir.

Quebec.—The current legislation under which succession duties are collected is R.S.Q. 1941, c. 18, as amended. As stated above, the following text and table can give only a broad outline of such duties as are applied to comparable classes of beneficiaries in other provinces. Full details regarding other cases may be obtained from the Act or from the Collector of Succession Duties, Provincial Revenue Offices, Quebec, Que.

Under the legislation beneficiaries are divided into three classes as follows:—

- (1) Those in direct ascending or descending line, or of a relationship as between consorts, between father- or mother-in-law and son- or daughter-in-law, or between step-father or step-mother and step-son or step-daughter. There is no limitation of degree in the direct ascending or descending line in these relationships.
- (2) Those in collateral line including a brother or sister, or descendant of a brother or sister of the deceased (nephews and nieces); or a brother or sister (uncle or aunt) or son or daughter of a brother or sister of the father or mother of the deceased (first degree cousins).
- (3) Others.

No duty is payable when the aggregate value of the property passing to persons in Class (1) does not exceed \$10,000; in an estate, the aggregate value of which does not exceed \$50,000, this sum is increased by \$1,500 for each child, in the first degree, under 25 years of age, domiciled in the Province, left by and surviving the deceased (15-16 Geo. VI, c. 14). If the aggregate value of the estate is less than \$1,000, bequests to collateral relatives are exempt. No duty is payable on bequests of up to \$1,000 to beneficiaries in Class (3) who have been in the employ of the testator for five years or more. In estates that devolved prior to Mar. 10, 1949 no duty is payable on legacies for religious, charitable or educational purposes in Quebec and the same privilege is extended to legacies for similar work outside the Province, provided that the province or State within which the work is to be carried out extends reciprocal privileges under its succession duty laws. Since Mar. 10, 1949 (13 Geo. VI, c. 32), all legacies, gifts and subscriptions for religious, charitable and educational purposes are tax-free, regardless of the country, province or State where the institutions benefiting therefrom are located.

21.—Occurrence of Federal and Quebec Succession Duties on Typical Estates

Class	Aggregate Net Value	Federal Duty ¹			Provincial Duty			Combined Duties ²
		Dutiable Value	Rate	Duty	Dutiable Value	Rate	Duty	
	\$	\$	p. c.	\$	\$	p. c.	\$	\$
A. Widow only.....	20,000	—	—	—	10,000	2-80	280	280
	25,000	—	—	—	15,000	3-00	450	450
	50,000	—	—	—	40,000	4-00	1,600	1,600
	60,000	40,000	10-60	4,240	60,000	5-60	3,360	5,480
	100,000	80,000	14-70	11,760	100,000	8-00	8,000	13,880
	300,000	280,000	26-70	74,760	300,000	12-00	36,000	74,760
	500,000	480,000	32-70	156,960	500,000	15-50	77,500	156,960
	1,000,000	980,000	38-70	379,260	1,000,000	23-00	230,000	419,630
B. Only child over 25 years...	20,000	—	—	—	10,000	2-80	280	280
	25,000	—	—	—	15,000	3-00	450	450
	50,000	—	—	—	40,000	4-00	1,600	1,600
	60,000	60,000	11-90	7,140	60,000	5-60	3,360	7,140
	100,000	100,000	16-70	16,700	100,000	8-00	8,000	16,700
	300,000	300,000	28-70	86,100	300,000	12-00	36,000	86,100
	500,000	500,000	34-70	173,500	500,000	15-50	77,500	173,500
	1,000,000	1,000,000	40-70	407,000	1,000,000	23-00	230,000	433,500
C. Brother or sister.....	20,000	—	—	—	20,000	7-80	1,560	1,560
	25,000	—	—	—	25,000	8-50	2,125	2,125
	50,000	—	—	—	50,000	12-00	6,000	6,000
	60,000	60,000	13-90	8,340	60,000	13-40	8,040	12,210
	100,000	100,000	18-70	18,700	100,000	16-00	16,000	25,350
	300,000	300,000	30-70	92,100	300,000	19-00	57,000	103,050
	500,000	500,000	36-70	183,500	500,000	21-67	108,334	200,084
	1,000,000	1,000,000	42-70	427,000	1,000,000	28-33	283,333	496,833
D. Stranger.....	20,000	—	—	—	20,000	14-00	2,800	2,800
	25,000	—	—	—	25,000	14-50	3,625	3,625
	50,000	—	—	—	50,000	17-00	8,500	8,500
	60,000	60,000	15-90	9,540	60,000	18-00	10,800	15,570
	100,000	100,000	20-70	20,700	100,000	22-00	22,000	32,350
	300,000	300,000	32-70	98,100	300,000	25-75	77,250	126,300
	500,000	500,000	38-70	193,500	500,000	28-25	141,250	239,000
	1,000,000	1,000,000	44-70	447,000	1,000,000	34-50	345,000	568,500

¹ The rates of federal duty shown are those actually applied but a credit may be made to the taxpayer of up to one-half of this amount on account of duty paid to the Province; see p. 1064. ² After deduction of credit on federal duty.

Ontario.—The current legislation on succession duties is R.S.O. 1950, c. 378, as amended. Full information may be obtained on application to the Succession Duty Office, Treasury Department, Parliament Buildings, Toronto, Ont.

Beneficiaries are divided into three classes as follows:—

- (1) Wife; child; husband; parent; grandparent; son- or daughter-in-law. The word "child" includes all lineal descendants.
- (2) Lineal ancestor beyond grandparent; brother; sister; uncle; aunt; also descendants of such brother, sister, uncle and aunt.
- (3) Others.

No duty is payable on estates not exceeding \$5,000 in aggregate value, nor on estates not exceeding \$50,000 willed to persons in Class (1), nor on those not exceeding \$10,000 willed to persons in Class (2).

Where any person in Class (3) was in the employ of the deceased for at least five years immediately prior to his death, no duty is payable with respect to any benefits which such person derived from the deceased where the total value of such benefits is not in excess of \$1,000. Such benefits, though exempt, are nevertheless taken as a factor in fixing the rates applicable to the dutiable portions of the estate.

Bequests for religious or educational purposes to any religious or educational organization which carries on its work solely in Canada, and bequests for charitable purposes to any charitable organization which carries on its work solely in Ontario, are exempt from duty and are ignored altogether in the computation of duty on the portions of the estate that are not exempt. The same rule applies to bequests to the Canadian National Institute for the Blind, the Canadian Red Cross Society and other approved patriotic organizations.

There are other exemptions more specifically set out in Sects. 3 and 4 of the Ontario Act.

22.—Occurrence of Federal and Ontario Succession Duties on Typical Estates

Class	Aggregate Net Value	Federal Duty ¹			Provincial Duty			Combined Duties ²
		Dutiable Value	Rate	Duty	Dutiable Value	Rate	Duty	
	\$	\$	p.c.	\$	\$	p.c.	\$	\$
A. Widow only.....	20,000	—	—	—	—	—	—	—
	25,000	—	—	—	—	—	—	—
	50,000	—	—	—	—	—	—	—
	60,000	40,000	10.60	4,240	60,000	4.60	3,174 ³	5,294
	100,000	80,000	14.70	11,760	100,000	7.50	8,625 ³	14,505
	300,000	280,000	26.70	74,760	300,000	10.00	34,500 ³	74,760
	500,000	480,000	32.70	156,980	500,000	12.50	71,875 ³	156,980
	1,000,000	980,000	38.70	379,260	1,000,000	18.00	207,000 ³	396,630
B. Only child over 25 years...	20,000	—	—	—	—	—	—	—
	25,000	—	—	—	—	—	—	—
	50,000	—	—	—	—	—	—	—
	60,000	60,000	11.90	7,140	60,000	4.60	3,174 ³	7,140
	100,000	100,000	16.70	16,700	100,000	7.50	8,625 ³	16,975
	300,000	300,000	28.70	86,100	300,000	10.00	34,500 ³	86,100
	500,000	500,000	34.70	173,500	500,000	12.50	71,875 ³	173,500
	1,000,000	1,000,000	40.70	407,000	1,000,000	18.00	207,000 ³	410,500
C. Brother or sister.....	20,000	—	—	—	20,000	8.60	2,064 ⁴	2,064
	25,000	—	—	—	25,000	9.15	2,745 ⁴	2,745
	50,000	—	—	—	50,000	11.90	7,140 ⁴	7,140
	60,000	60,000	13.90	8,340	60,000	13.00	9,360 ⁴	13,530
	100,000	100,000	18.70	18,700	100,000	15.20	18,240 ⁴	27,590
	300,000	300,000	30.70	92,100	300,000	18.00	64,800 ⁴	110,850
	500,000	500,000	36.70	183,500	500,000	20.50	123,000 ⁴	214,750
	1,000,000	1,000,000	42.70	427,000	1,000,000	26.00	312,000 ⁴	525,500
D. Stranger.....	20,000	—	—	—	20,000	13.10	3,275 ⁵	3,275
	25,000	—	—	—	25,000	13.40	4,188 ⁵	4,188
	50,000	—	—	—	50,000	15.00	9,375 ⁵	9,375
	60,000	60,000	15.90	9,540	60,000	15.50	11,625 ⁵	16,395
	100,000	100,000	20.70	20,700	100,000	17.50	21,875 ⁵	32,225
	300,000	300,000	32.70	98,100	300,000	22.50	84,375 ⁵	133,425
	500,000	500,000	38.70	193,500	500,000	27.50	171,875 ⁵	268,625
	1,000,000	1,000,000	44.70	447,000	1,000,000	35.00	437,500 ⁵	661,000

¹ The rates of federal duty shown are those actually applied but a credit may be made to the taxpayer of up to one-half of this amount on account of duty paid to the Province; see p. 1064. ² After deduction of credit on federal duty but inclusive of surtax on provincial duty. ³ Includes a surtax of 15 p.c. ⁴ Includes a surtax of 20 p.c. ⁵ Includes a surtax of 25 p.c.

Subsection 4.—Subsidies and Taxation Agreements with the Provinces

Subsidies.—By the provisions of the British North America Act and subsequent arrangements entered into from time to time, the Federal Government makes certain annual payments to the Provinces.

Interest on Debt Allowance.—By the terms of the union of the provinces at Confederation in 1867, the Federal Government assumed all the outstanding debts and liabilities of the provinces and undertook to pay, except to Ontario and Quebec, interest at 5 p.c. per annum on the amounts by which the actual per capita indebtedness of the provinces fell short of a basic debt allowance calculated at approximately \$25 per capita. On the

subsequent entry of additional provinces into Confederation, similar arrangements were effected regarding the assumption of their pre-Confederation indebtedness. From time to time adjustments have been made in the basis of calculating the debt allowances of provinces; moreover the Federal Government pays interest at 5 p.c. per annum on the amounts by which the actual debts of the provinces, on their entry into Confederation, fell short of the allowed debts as adjusted.

Allowances for Governments and Legislatures.—Under the terms of the union annual specific grants were made to the various provinces toward the support of their governments and legislatures. These amounts vary with the population of the provinces according to the following scale approved in 1907:—

Where population is—	\$
Under 150,000.....	100,000
150,000, but does not exceed 200,000.....	150,000
200,000, “ “ 400,000.....	180,000
400,000, “ “ 800,000.....	190,000
800,000, “ “ 1,500,000.....	220,000
Over 1,500,000.....	240,000

Allowances per Capita of Population.—Under the British North America Act of 1867 a grant of 80 cents per capita of population was allowed to each province. The British North America Act of 1907 provided that the grant would be paid to each province at the rate of 80 cents per capita up to a population of 2,500,000 and at the rate of 60 cents per capita for so much of the population as exceeded that number. These allowances were last adjusted in 1951 following the decennial Census.

The Act to approve the Terms of Union of Newfoundland with Canada in 1949 provided for an annual subsidy equal to 80 cents per capita of the population of the Province (being taken at 325,000 until the first decennial Census after the date of union), subject to increase to conform with the scale of grants authorized by the British North America Act 1907.

Special Grants.—For certain of the provinces grants have been added to the original scale of subsidies because of special circumstances.

PRINCE EDWARD ISLAND.—Various special grants totalling \$155,880 per annum.

NEW BRUNSWICK.—An annual grant of \$150,000 since 1875 in consideration of the repeal of lumber duties reserved to the Province by the British North America Act of 1867.

MANITOBA.—A special grant on the basis of population amounting at present to \$562,500 per annum.

SASKATCHEWAN AND ALBERTA.—An annual sum as compensation for loss of public lands revenue, based on their respective populations and amounting at present to \$750,000 for Saskatchewan and \$750,000 for Alberta.

BRITISH COLUMBIA.—A special grant in lieu of lands amounting at present to \$100,000 per annum.

Additional Special Grants.—Additional special grants were voted annually to the Maritime Provinces, Manitoba, Saskatchewan and British Columbia until 1941; they were suspended when the Wartime Tax Agreements 1942 came into force. The grants were paid in 1947 and later years to the three Maritime Provinces under the provisions of the Maritime Additional Subsidies Act 1942. The Terms of Union with Newfoundland 1949 provide for an additional annual subsidy of \$1,100,000 in recognition of the special problems of its geography and its sparse and scattered population.

23.—Subsidy Allowances to Provincial Governments, Years Ended Mar. 31, 1949-55

NOTE.—Exclusive of additional payments under the Wartime Tax Agreements and the Tax Rental Agreements.

Province	1949	1950	1951	1952 1953 1954	1955
	\$	\$	\$	\$	\$
Newfoundland ¹.....	...	1,925,000	1,540,000	1,569,133	1,569,133
Prince Edward Island.....	656,932	656,932	656,932	656,932	656,932
Nova Scotia.....	2,005,140	2,005,140	2,005,140	2,056,838	2,056,838
New Brunswick.....	1,632,386	1,632,386	1,632,386	1,679,022	1,679,022
Quebec.....	2,866,590	2,866,590	2,866,590	3,300,869	3,300,869
Ontario.....	3,155,007	3,155,007	3,155,007	3,640,940	3,640,940
Manitoba.....	1,715,623	1,767,315	1,750,084	1,755,317	1,852,468
Saskatchewan.....	2,041,525	2,071,900	2,061,775	2,040,757	2,087,884
Alberta.....	2,018,039	2,086,043	2,063,375	2,126,976	2,228,375
British Columbia.....	1,003,440	1,003,440	1,003,440	1,281,319	1,281,319
Totals	17,094,682	19,169,753	18,734,729	20,108,103	20,353,780

¹ Excludes the transitional grant allowed to this Province under the Terms of Union.**24.—Individual Subsidy Allowances by Province, Year Ended Mar. 31, 1955**

(Thousands of dollars)

Subsidy	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
Allowance for governments.....	180	100	190	190	240	240	205	220	220	220	2,005
Allowance on basis of population.....	289	87	514	413	2,933	3,259	703	713	853	932	10,696
Interest on debt allowance.....	—	39	53	26	128	142	382	405	405	29	1,609
Special Grants—											
Additional Annual Subsidy—											
Statutes 1949, c. 1.....	1,100	—	—	—	—	—	—	—	—	—	1,100
Statutes 1942, c. 14.....	—	275	1,300	900	—	—	—	—	—	—	2,475
Statutes 1887, c. 8 and R.S. 1927,	—	20	—	—	—	—	—	—	—	—	20
c. 12.....	—	100	—	—	—	—	—	—	—	—	100
Statutes 1912, c. 42.....	—	—	—	—	—	—	—	—	—	—	—
In lieu of public lands.....	—	6	—	—	—	—	562	750	750	100	2,168
In settlement of steamship services	—	30	—	—	—	—	—	—	—	—	30
claims.....	—	—	—	—	—	—	—	—	—	—	—
In lieu of export duty on lumber.....	—	—	—	150	—	—	—	—	—	—	150
Totals	1,569	657	2,057	1,679	3,301	3,641	1,852	2,088	2,228	1,281	20,353

Taxation Agreements.—Early in World War II, in order to provide revenue for heavy national expenditures and at the same time control inflationary tendencies, the Provincial Governments vacated the income and corporation tax fields in favour of the Federal Government for the duration of the War and a limited period thereafter, after

agreeing to the terms of a tax rental fee from the Federal Government. These Agreements of 1942 were succeeded by Tax Rental Agreements 1952. Under the 1952 Agreements, all provinces except Ontario and Quebec agreed to lease their personal and corporation income taxes, special corporation taxes and succession duties to the Government of Canada in exchange for a rental fee. Ontario, which had not entered into the 1947 Agreements, also agreed to lease personal and corporation income taxes and special corporation taxes but retained the right to levy succession duties. In 1952 the nine provinces received \$303,000,000 in tax rental fees compared with \$96,000,000 received by the eight provinces in 1951.

The Wartime Tax Agreements of 1942 are outlined in the 1946 Year Book, pp. 900-901. The 1947 and 1952 Tax Rental Agreements are outlined at pp. 1087-1090 of the 1954 edition.

Subsection 5.—National Debt

A brief commentary dealing with the national debt of the Government of Canada from 1914 appears at p. 1091 of the 1954 Year Book. The following tables summarize the debt position during the period 1946-55 as to interest, currency of payment, outstanding debt and securities issue.

25.—Summary of the Public Debt and Interest Payments Thereon, Years Ended Mar. 31, 1946-55

NOTE.—Statistics for 1867-1913 are given in the 1942 Year Book, p. 775; those for 1914-35 in the 1947 edition, p. 972; and those for 1936-45 in the 1951 edition, p. 1009.

Year	Gross Debt	Net Active Assets	Net Debt	Net Debt Per Capita ¹	Increase or Decrease of Net Debt During Year	Interest Paid on Debt	Interest Paid per Capita ²
	\$	\$	\$	\$	\$	\$	\$
1946.....	18,959,846,183	5,538,440,734	13,421,405,449	1,091.88	2,123,043,431	409,134,502	33.89
1947.....	17,698,195,740	4,650,439,192	13,047,756,548	1,039.58	-373,648,901	464,394,876 ³	37.78
1948.....	17,197,348,981	4,825,712,088	12,371,636,893	964.80	-676,119,656	455,455,204	36.29
1949.....	16,950,403,795	5,174,269,643	11,776,134,152	875.74	-595,502,741	465,137,958 ³	36.27
1950.....	16,750,756,246	5,106,147,047	11,644,609,199	849.23	-131,524,953	439,816,335	32.71
1951.....	16,923,307,028	5,489,992,080	11,433,314,948	816.14	-211,294,251	425,217,500	31.01
1952.....	17,257,668,676	6,072,387,129	11,185,281,546	775.14	-248,033,402	432,423,082 ⁴	30.87
1953.....	17,918,490,812 ⁵	6,756,756,543 ⁵	11,161,734,269	755.14	-23,547,277	451,339,521	31.28
1954.....	17,923,189,502 ⁵	6,807,252,438 ⁵	11,115,937,064	731.55	-45,797,205	476,061,625	32.21
1955.....	17,951,491,464 ⁵	6,688,411,310 ⁵	11,263,080,154	721.95	147,143,090	477,914,894	31.45

¹ Based on the official estimates of population for June 1 of the year indicated (see p. 151).

² Based on the official estimates of population for June 1 of the year immediately preceding the one indicated (see p. 151).

³ The apparent increase in interest paid results from the accrued interest on refundable taxes having been charged in the year of repayment.

⁴ Excludes \$87,510,068 adjustment required to place interest on public debt on accrued basis.

⁵ These figures are not strictly comparable with those for previous years chiefly because of changed methods in accounting for cash.

Funded Debt Operations.—The unmatured debt and treasury bills outstanding as at Mar. 31, 1955 are listed in Table 26 and information on the Federal Government securities (payable in Canada) issued during the year ended Mar. 31, 1955 is given in Table 27.

**26.—Unmatured Debt and Treasury Bills as at Mar. 31, 1955
and Annual Interest Payable Thereon**

Date of Maturity	Description	Rate	Where Payable	Amount of Loan Outstanding	Annual Interest Charge
		p. c.		\$	\$
1955—May 2	Six Month Treasury Notes.....	1 $\frac{3}{8}$	Canada	200,000,000	2,750,000
May 2	Two Month Treasury Notes.....	1 $\frac{3}{8}$	Canada	500,000,000	5,625,000
July 1	Loan of 1953.....	2 $\frac{1}{2}$	Canada	200,000,000	4,500,000
July 1	Loan of 1953.....	2 $\frac{1}{2}$	Canada	400,000,000	9,000,000
1956—July 1	Loan of 1950.....	2 $\frac{1}{2}$	Canada	400,000,000	9,000,000
Nov. 1	Canada Savings Bonds 1946.....	2 $\frac{1}{2}$	Canada	70,903,850	1,949,856
Dec. 15	Loan of 1954.....	2 $\frac{1}{2}$	Canada	550,000,000	12,375,000
1957—Oct. 1	Loan of 1954.....	2	Canada	700,000,000	14,000,000
Nov. 1	Canada Savings Bonds 1947.....	2 $\frac{1}{2}$	Canada	37,695,100	1,036,615
1958—May 1	Loan of 1953.....	3	Canada	300,000,000	9,000,000
Nov. 1	Canada Savings Bonds 1948.....	2 $\frac{1}{2}$	Canada	34,840,900	958,125
1959—Jan. 1	Fifth Victory Loan 1943.....	3	Canada	1,197,324,750	35,919,742
Nov. 1	Canada Savings Bonds 1949.....	2 $\frac{1}{2}$	Canada	51,302,850	1,410,828
1960—June 1	Sixth Victory Loan 1944.....	3	Canada	1,165,300,350	34,959,011
Nov. 1	Canada Savings Bonds 1950.....	2 $\frac{1}{2}$	Canada	47,537,650	1,307,285
1961—Jan. 15	Loan of 1936.....	3 $\frac{1}{2}$	New York	48,000,000	1,560,000
1962—Feb. 1	Seventh Victory Loan 1944.....	3	Canada	1,315,639,200	39,469,176
Aug. 1	Canada Savings Bonds 1951.....	3 $\frac{1}{2}$	Canada	149,850,400	5,244,764
1963—July 1	Loan of 1933.....	3	London	49,833,091	1,494,993
July 1	Loan of 1938.....	3 $\frac{1}{2}$	London	1,978,362	64,297
Aug. 1	Canada Savings Bonds 1952.....	3 $\frac{1}{2}$	Canada	168,985,000	6,336,937
Aug. 1	Loan of 1948.....	3	New York	150,000,000	4,500,000
Oct. 1	Eighth Victory Loan 1945.....	3	Canada	1,295,819,350	38,874,581
1965—Nov. 1	Canada Savings Bonds 1953.....	3 $\frac{1}{2}$	Canada	699,994,500	26,249,794
1966—June 1	Loan of 1936.....	3 $\frac{1}{2}$	Canada	54,703,000	1,777,847
Sept. 1	Ninth Victory Loan 1945.....	3	Canada	1,691,796,700	50,753,901
Nov. 1	Canada Savings Bonds 1954.....	3 $\frac{1}{2}$	Canada	769,936,800	25,022,946
1968—June 15	Loan of 1950.....	2 $\frac{1}{2}$	Canada	350,000,000	9,625,000
1974—Sept. 1	Loan of 1949.....	2 $\frac{1}{2}$	New York	100,000,000	2,750,000
1975—Sept. 15	Loan of 1950.....	2 $\frac{1}{2}$	New York	50,000,000 ²	1,375,000
1976—June 1	Loan of 1954.....	3 $\frac{1}{2}$	Canada	300,000,000	9,750,000
1978—Jan. 15	Loan of 1953.....	3 $\frac{1}{2}$	Canada	100,000,000	3,750,000
1979—Oct. 1	Loan of 1954.....	3 $\frac{1}{2}$	Canada	400,000,000	13,000,000
	Perpetual Loan of 1936.....	3	Canada	55,000,000	1,650,000
Various	Treasury Bills.....	Various	Canada	890,000,000	10,772,450
Totals, Unmatured Debt and Treasury Bills.....				14,496,441,853	397,813,148
Payable in Canada.....				14,096,630,400	386,068,858
Payable in New York.....				348,000,000	10,185,000
Payable in London.....				51,811,453	1,559,290

¹ Redeemable to Sept. 1, 1953 at 103 p.c.; thereafter to Sept. 1, 1957 at 102 $\frac{1}{2}$ p.c.; to Sept. 1, 1961 at 102 p.c.; to Sept. 1, 1965 at 101 $\frac{1}{2}$ p.c.; to Sept. 1, 1968 at 101 p.c.; to Sept. 1, 1971 at 100 $\frac{1}{2}$ p.c.; and thereafter at 100 p.c.
² Redeemable to Sept. 15, 1954 at 103 $\frac{1}{2}$ p.c.; thereafter to Sept. 15, 1957 at 103 p.c.; to Sept. 15, 1960 at 102 $\frac{1}{2}$ p.c.; to Sept. 15, 1963 at 102 p.c.; to Sept. 15, 1966 at 101 $\frac{1}{2}$ p.c.; to Sept. 15, 1969 at 101 p.c.; to Sept. 15, 1972 at 100 $\frac{1}{2}$ p.c.; and thereafter at 100 p.c.

27.—Federal Government New Security Issues during the Year Ended Mar. 31, 1955

(Payable in Canada)

Security Issues	Issue Date	Maturity Date	Interest Rate	Price to Government	Yield at Price to Government	Total Amount Issued	Renewals or Reconversions Included in Amount Issued	Amount Issued for Cash
			p.c.	\$	p.c.	\$	\$	\$
Issued to Bank of Canada—								
Six month treasury notes.....	May 1, 1954	Nov. 1, 1954	1½	100-00	1-75	200,000,000	200,000,000	—
Six month treasury notes.....	Sept. 1, 1954	Mar. 1, 1954	1½	100-00	1-50	550,000,000	550,000,000	—
Six month treasury notes.....	Nov. 1, 1954	May 2, 1955	1½	100-00	1-375	200,000,000	200,000,000	—
Two month treasury notes.....	Mar. 1, 1955	May 2, 1955	1½	100-00	1-125	500,000,000	500,000,000	—
Three month, twenty-three day treasury notes....	July 23, 1954	Nov. 15, 1954	1½	99-97	1-59	50,000,000	—	50,000,000
Totals.....						1,500,000,000	1,450,000,000	50,000,000
Issued to Chartered Banks—								
Three month, twenty-three day treasury bills....	July 23, 1954	Nov. 15, 1954	1½	99-97	1-59	150,000,000	—	150,000,000
Issued to General Public—								
Two-and-one-half year loan.....	June 1, 1954	Dec. 15, 1956	2½	99-50	2-46	550,000,000	550,000,000	—
Twenty-two year loan.....	June 1, 1954	June 1, 1976	3½	98-25	3-36	300,000,000	300,000,000	—
Twenty-five year loan.....	Oct. 1, 1954	Oct. 1, 1979	3½	99-25	3-29	400,000,000	400,000,000	—
Three year loan....	Oct. 1, 1954	Oct. 1, 1957	2	99-50	2-17	700,000,000	700,000,000	—
Canada Savings Bonds, Series IX, net.....	Nov. 1, 1954	Nov. 1, 1966	3½	99-25	3-33	769,936,800	—	769,936,800
Increase in treasury bills.....	Various	Various	Various	Various	Various	240,000,000	—	240,000,000
Totals.....						2,959,936,800	1,950,000,000	1,009,936,800
Grand Totals..						4,609,936,800	3,400,000,000	1,209,936,800

Guaranteed Debt.—In addition to the direct debt of the Federal Government already dealt with, there are large indirect obligations arising mainly out of the guarantee of securities by the Federal Government of the railway lines that now form the Canadian National Railways and the subsequent extensions thereof. Since 1932 guarantees of certain bank loans have been made under the various Relief Acts, the National Housing Act, the Farm Improvement Loans Act and the Veterans Business and Professional Loans Act. When the Bank of Canada commenced business on Mar. 11, 1935 the guarantee of the deposit required to be maintained in the Bank of Canada by every chartered bank came into force. This guarantee must be implemented "in the event of the property and assets of the Bank being insufficient to pay its liabilities and/or if the Bank suspends payment of any of its liabilities".

28.—Guaranteed Debt of the Government of Canada (Amounts Held by the Public as at Mar. 31, 1954)

NOTE.—These contingent liabilities are expressed in Canadian dollars; stocks and bonds payable solely in Sterling are converted on the basis of £1=\$2.80 and United States dollars are considered at par with the Canadian dollar.

Item	Amount of Guarantee Authorized	Amount Held by Public at Mar. 31, 1955
	\$	\$
Railway Securities Guaranteed as to Principal and Interest.....	1,005,367,390	908,351,073
Canadian National Ry. Co. 4½ p.c. gold bonds due 1955.....	50,000,000	48,496,000
Canadian National Ry. Co. 4½ p.c. gold bonds due 1956.....	70,000,000	67,368,000
Canadian National Ry. Co. 4½ p.c. gold bonds due 1957.....	65,000,000	64,136,000
Canadian Northern Ry. Co. 3½ p.c. debenture stock due 1958, £1,622,586/19/9..	7,896,590	5,500,207
Canadian National Ry. Co. 3 p.c. bonds due 1959.....	35,000,000	35,000,000
Canadian Northern Alberta Ry. Co. 3½ p.c. debenture stock due 1960, £647,260/5/6.....	3,150,000	316,856
Canadian Northern Ontario Ry. Co. 3½ p.c. debenture stock due 1961, £7,350,000/0/0.....	35,770,000	2,069,804
Grand Trunk Pacific Ry. Co. 3 p.c. bonds due 1962, £14,000,000/0/0.....	68,040,000	26,465,130
Canadian Northern Alberta Ry. Co. 3½ p.c. debenture stock due 1962, £733,561/12/10.....	3,570,000	—
Grand Trunk Pacific Ry. Co. 4 p.c. bonds due 1962, £3,280,000/0/0.....	15,940,800	7,999,074
Canadian National Ry. Co. 2½ p.c. bonds due 1963.....	250,000,000	250,000,000
Canadian National Ry. Co. 3 p.c. bonds due 1966.....	35,000,000	35,000,000
Canadian National Ry. Co. 2½ p.c. bonds due 1967.....	50,000,000	50,000,000
Canadian National Ry. Co. 2½ p.c. bonds due 1969.....	70,000,000	70,000,000
Canadian National Ry. Co. 2½ p.c. bonds due 1971.....	40,000,000	40,000,000
Canadian National Ry. Co. 3½ p.c. bonds due 1974.....	200,000,000	200,000,000
Canadian National Ry. Co. 2½ p.c. bonds due 1975.....	6,000,000	6,000,000
Railway Securities Guaranteed as to Interest Only.....	153,873,829	100,069
Grand Trunk Ry. Acquisition Guarantees—		
Grand Trunk 5 p.c. perpetual debenture stock, £4,270,375/0/0.....	20,782,492	56,789
Great Western 5 p.c. perpetual debenture stock, £2,723,060/0/0.....	13,252,323	1,960
Grand Trunk 4 p.c. perpetual debenture stock, £24,624,455/0/0.....	119,839,014	41,320
Other Guarantees—		
Province of Manitoba Treasury Bill.....	2,500,000	750,000
Deposits maintained by chartered banks in Bank of Canada.....	Unstated	541,934,901
Loans made by approved lending institutions under National Housing Acts prior to 1954 Act.....	Unstated	Indeterminate
Loans made by approved lending institutions under the Home Improvement Loans Guarantee Act 1937.....	7,500,000 ¹	62
Loans made by approved lending institutions under Part IV of the National Housing Act 1944 for home extensions and improvements.....	6,250,000	2,698
Loans made by lenders under Part IV of the National Housing Act 1954 for home extensions and improvements.....	6,250,000	88,325
Guarantees to approved lending institutions in respect of land assembly projects under the National Housing Acts 1944 and 1954.....	Unstated	—
Insured loans made by approved lenders under the National Housing Act 1954.....	2,000,000,000	185,755,000
Guarantees under Export Credits Insurance Act Part I.....	100,000,000	26,254,068
Guarantees under Export Credits Insurance Act Part II.....	12,750,000	7,650,000
Loans made by chartered banks under the Farm Improvement Loans Act.....	58,952,089	36,236,324
Loans made by chartered banks under the Veterans Business and Professional Loans Act.....	Indeterminate	1,931,239
Loans made by chartered banks under the Prairie Grain Producers' Interim Financing Act 1951.....	5,000,000	3,450
Loans made by chartered banks to Canadian Wheat Board.....	150,000,000	94,409,740

¹ This amount represents the original maximum amount guaranteed. As the authority for making additional guaranteed loans or advances had expired prior to Mar. 31, 1955 the amount authorized at that date is the same as the amount outstanding.

Section 3.—Provincial Public Finance

Provincial government accounting and reporting practices vary considerably so that certain adjustments to the Public Accounts figures are required in order to produce comparable statistics. For example transactions relating to a specific function are sometimes excluded from ordinary account; therefore special or administrative funds of this nature have been added to provincial ordinary account in the tables of this Section.

Fiscal periods are as nearly coincident as possible in view of the variations in provincial fiscal year-ends prior to the 1951 fiscal year; as of 1952 fiscal years of all provinces end on Mar. 31. Figures for Newfoundland are included from 1949 and for Yukon Territory from 1950.

Subsection 1.—Revenue and Expenditure of Provincial Governments

The figures of revenue and expenditure presented in this Subsection do not agree with those given in Tables 1 and 2, pp. 1047-1048, mainly because of differences in the methods used to compute net figures and because of the slightly different classification of items. Net general revenue as shown in Tables 29 and 30 is achieved by deducting from gross general (ordinary and capital) revenue (a) all institutional revenue, (b) revenue in the form of interest, premium, discount and exchange, (c) grants-in-aid and shared-cost contributions and (d) all capital revenue. These revenues are then offset against the related functions of expenditure to arrive at net general (ordinary and capital) expenditure, shown in Tables 29 and 31.

The following statement gives some indication of the increase in the revenue collected and services rendered in 1953 by the provincial governments compared with 1949, the year that Newfoundland entered Confederation.

Item	1949	1953
	(Millions of dollars)	
NET GENERAL REVENUE—		
Taxes—		
Corporation income tax.....	106	49
Motor fuel and fuel oil tax.....	139	224
General sales tax.....	62	108
Other taxes.....	111	126
Federal tax rental agreements.....	80	309
Privileges, Licences and Permits—		
Motor vehicle.....	58	88
Natural resources.....	82	195
Other.....	38	48
Liquor profits.....	107	125
Other.....	58	64
TOTALS, NET GENERAL REVENUE.....	841	1,336
NET GENERAL EXPENDITURE—		
Transportation and communications.....	254	353
Health and Social Welfare.....	223	313
Education.....	160	234
Debt charges (excluding debt retirement).....	52	53
Other.....	187	305
TOTALS, NET GENERAL EXPENDITURE.....	876	1,258

29.—Gross and Net Revenue and Expenditure of Provincial Governments, Years Ended Mar. 31, 1951-53

NOTE.—Figures are adjusted to achieve interprovincial comparability.

Province or Territory	1951 ¹	1952	1953	1951 ¹	1952	1953
	GROSS ORDINARY REVENUE			GROSS ORDINARY EXPENDITURE		
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	30,359	35,055	35,632	30,038	29,095	33,481
Prince Edward Island.....	7,327	7,941	8,336	7,153	6,569	6,831
Nova Scotia.....	49,336	52,927	56,221	49,910	50,614	54,191
New Brunswick.....	48,769	51,977	56,657	50,102	52,322	57,528
Quebec.....	318,821	313,712	332,959	256,911	284,840	296,537
Ontario.....	348,506	395,253	402,384	364,064	367,176	409,903
Manitoba.....	57,067	63,924	67,166	53,628	56,698	59,464
Saskatchewan.....	85,804	98,611	106,491	79,081	79,978	86,379
Alberta.....	118,341	153,295	195,424	70,582	74,980	89,260
British Columbia.....	175,387	196,488	202,428	170,282	205,203	200,010
Yukon Territory.....	1,532	..	1,916	1,140	..	1,610
Totals.....	1,241,249	1,369,183	1,465,614	1,132,891	1,207,475	1,295,194

¹For footnote, see end of table.

**29.—Gross and Net Revenue and Expenditure of Provincial Governments,
Years Ended Mar. 31, 1951-53—concluded**

Province or Territory	1951 ¹	1952	1953	1951 ¹	1952	1953
	NET GENERAL REVENUE			NET GENERAL EXPENDITURE ²		
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	25,183	31,734	31,641	29,895	28,881	32,802
Prince Edward Island.....	6,048	7,288	7,671	7,865	7,064	7,167
Nova Scotia.....	38,794	46,647	49,348	49,148	46,464	51,254
New Brunswick.....	40,697	46,555	49,220	40,038	44,927	47,813
Quebec.....	277,406	284,703	299,417	261,196	313,117	310,999
Ontario.....	303,842	364,507	370,897	335,817	372,019	384,215
Manitoba.....	46,073	55,456	55,822	42,725	42,023	46,702
Saskatchewan.....	74,777	91,094	98,415	71,781	80,187	85,783
Alberta.....	105,751	144,504	185,851	81,965	103,583	118,150
British Columbia.....	157,102	185,368	186,337	152,250	168,875	171,780
Yukon Territory.....	1,187	..	1,460	1,163	..	1,154
Totals.....	1,076,860	1,257,556	1,336,079	1,073,843	1,207,140	1,257,819

¹ Fiscal years ended nearest Dec. 31, 1951.
1952, \$113,098,000; and 1953, \$81,270,000.

² Excludes debt retirement as follows: 1951, \$86,530,000;

**30.—Details of Net General Revenue of Provincial Governments, Fiscal Years
Ended Mar. 31, 1952 and 1953**

Source	1952 ¹	1953	Source	1952 ¹	1953
	\$'000	\$'000		\$'000	\$'000
Taxes—			Other Governments—		
Corporations.....	14,494	17,019	Government of Canada—		
Income—			Share of income tax on power		
Corporations.....	64,946	49,110	utilities.....	4,369	6,831
Individuals (arrears).....	13	3	Subsidies.....	25,757	24,944
Property.....	7,452	6,451	Totals, Government of Canada..	30,126	31,775
Sales—					
Alcoholic beverages.....	1,765	1,863	Municipalities.....	830	272
Amusements and admissions..	21,394	23,101	Totals, Other Governments.....	30,956	32,047
Motor fuel and fuel oil.....	200,549	224,023			
Tobacco.....	11,411	14,025	Government Enterprises and		
General.....	100,968	108,263	Other Funds—		
Other commodities and services.....	4,337	4,652	Liquor profits.....	125,579	124,922
Succession duties.....	32,725	31,133	Other.....	3,752	3,595
Other.....	27,375	27,008	Other revenue.....	767	717
Totals, Taxes.....	487,429	506,651	Totals, excluding Non-revenue		
Federal Tax Rental Agreements...	303,313	309,441	and Surplus Receipts.....	1,254,637	1,333,364
Privileges, Licences and Permits—					
Liquor control and regulation....	30,850	31,838	Non-revenue and Surplus Re-		
Motor vehicle.....	80,911	88,247	ceipts—		
Natural resources.....	154,852	194,962	Refund of previous years' ex-		
Other.....	14,474	16,202	penditure.....	1,106	920
Totals, Privileges, Licences and			Repayment of advances credited		
Permits.....	281,087	331,249	to revenue.....	2,082	1,739
Sales and Services.....	18,271	20,736	Other.....	31	56
Fines and Penalties.....	3,483	4,006	Totals, Non-revenue and Surplus		
			Receipts.....	3,219	2,715
			Totals, Net General Revenue..	1,257,856	1,336,079

¹ Excludes the Yukon Territory, figures for which were not available.

31.—Details of Net General Expenditure of Provincial Governments, Fiscal Years Ended Mar. 31, 1952 and 1953

Function	1952 ¹	1953	Function	1952 ¹	1953
	\$'000	\$'000		\$'000	\$'000
General Government—			Education—concluded		
Executive and administrative...	40,514	45,260	Universities, colleges and other schools.....	43,256	47,270
Legislative.....	6,687	5,942	Education of the handicapped....	1,967	2,047
Research, planning and statistics.	406	418	Superannuation and pensions.....	8,906	10,051
Other.....	21	—	Other.....	7,501	8,097
Totals, General Government....	47,628	51,620	Totals, Education.....	221,073	234,030
Protection of Persons and Property—			Natural Resources and Primary Industries—		
Law enforcement.....	15,393	17,531	Fish and game.....	9,978	10,211
Corrections.....	16,217	18,561	Forests.....	30,155	32,776
Police protection.....	15,199	18,064	Lands: settlement and agriculture	43,334	43,570
Other.....	20,255	22,663	Minerals and mines.....	5,358	6,505
Totals, Protection of Persons and Property.....	67,064	76,819	Other.....	5,024	9,261
Transportation and Communications—			Totals, Natural Resources and Primary Industries.....	93,849	102,323
Highways, roads and bridges....	363,407	348,914	Trade and Industrial Development	6,955	7,144
Railways.....	393	411	Local Government Planning and Development.....	2,348	2,856
Telephone, telegraph and wireless	23	26	Debt Charges.....	170,272	134,466
Waterways.....	3,366	3,751	Contributions to Local Governments—		
Other.....	5	5	Shared-revenue contributions....	21,036	22,667
Totals, Transportation and Communications.....	367,194	353,107	Subsidies.....	5,268	6,000
Health and Social Welfare—			Other.....	428	878
Health—			Totals, Contributions to Local Governments.....	26,732	29,545
General.....	3,817	4,305	Contributions to Government Enterprises.....	14,334	12,923
Public health.....	13,005	14,242	Other Expenditure.....	5,736	6,183
Medical, dental and allied services.....	8,686	8,261	Totals, excluding Non-expense and Surplus Payments.....	1,317,881	1,332,120
Hospital care.....	166,808	182,657	Non-expense and Surplus Payments—		
Totals, Health.....	192,316	209,465	Advances charged to revenue....	339	4,092
Social Welfare—			Refunds of previous years' revenue.....	176	1,174
Aid to aged persons.....	33,138	34,688	Other.....	1,842	1,703
Aid to blind persons.....	1,393	1,839	Totals, Non-expense and Surplus Payments.....	2,357	6,969
Aid to unemployed employables and unemployables....	12,757	15,865	Totals, Net General Expenditure.....	1,320,238	1,339,089
Mothers' allowances.....	21,703	21,859	Less Debt Retirement included above.....	113,098	81,270
Child welfare.....	11,263	12,254	Totals, Net General Expenditure (excluding debt retirement).....	1,207,140	1,257,819
Labour.....	2,805	3,116			
Other.....	11,629	13,922			
Totals, Social Welfare.....	94,688	103,543			
Totals, Health and Social Welfare.....	287,004	313,008			
Recreational and Cultural Services.	7,692	8,096			
Education—					
Schools operated by local authorities.....	159,443	166,565			

¹ Excludes the Yukon Territory, figures for which were not available.

Subsection 2.—Debt of Provincial Governments

Table 32 reveals a steady increase in total bonded debt despite the decreases registered in Alberta and British Columbia in the later years. Table 33 shows that the majority of bond issues are payable in Canada only (70 p.c. in 1949 decreasing to 63 p.c. in 1953) and that the portion payable in New York only has increased from zero in 1949 to 18.5 p.c. in 1953. Table 34 provides details of total direct and indirect debt of provincial governments as at Mar. 31, 1954.

32.—Gross Bonded Debt (exclusive of Treasury Bills) of Provincial Governments as at Fiscal Year Ends Nearest Dec. 31, 1949-51 and Mar. 31, 1952-53

Year	Bonded Debt	Average Coupon Rate	Average Term of Issue	Year	Bonded Debt	Average Coupon Rate	Average Term of Issue
	\$'000	p.c.	yrs.		\$'000	p.c.	yrs.
Newfoundland—				Ontario—concluded			
1949.....	6,223	3.34	22.3	1952.....	867,567 ¹	3.53	22.4
1950.....	6,223	3.34	22.3	1953.....	1,012,231 ¹	3.56	21.9
1951.....	5,000	3.30	18.0	Manitoba—			
1952.....	15,000	4.27	14.0	1949.....	91,480	3.82	21.5
1953.....	15,000	4.27	14.0	1950.....	98,446	3.68	19.6
Prince Edward Island—				1951.....	128,409	3.66	18.8
1949.....	15,402	3.13	12.3	1952.....	154,149	3.74	18.2
1950.....	15,666	3.09	12.5	1953.....	161,750	3.77	18.0
1951.....	17,500	3.22	12.3	Saskatchewan—			
1952.....	18,998	3.30	12.5	1949.....	130,822	4.16	19.6
1953.....	19,850	3.33	12.2	1950.....	134,594	4.02	19.5
Nova Scotia—				1951.....	135,331	3.87	18.8
1949.....	141,098	3.38	16.5	1952.....	145,351	3.88	19.8
1950.....	156,632	3.29	16.8	1953.....	164,293	3.91	20.0
1951.....	172,291	3.33	16.8	Alberta—			
1952.....	190,871	3.35	17.0	1949.....	168,700	3.16	20.5
1953.....	203,496	3.45	17.1	1950.....	88,765	2.86	15.0
New Brunswick—				1951.....	86,270	2.87	15.2
1949.....	158,654	3.51	17.3	1952.....	83,693	2.87	15.5
1950.....	165,842 ¹	3.48	17.3	1953.....	81,043	2.87	15.7
1951.....	188,868 ¹	3.59	17.0	British Columbia—			
1952.....	198,366 ¹	3.71	17.4	1949.....	168,763	3.55	21.2
1953.....	202,019	3.78	17.8	1950.....	185,820	3.36	20.0
Quebec—				1951.....	245,266	3.38	20.1
1949.....	419,450	3.43	17.4	1952.....	235,528	3.41	20.7
1950.....	420,085 ¹	3.39	17.7	1953.....	222,129	3.37	20.8
1951.....	435,885 ¹	3.33	18.0	Totals—			
1952.....	461,510 ¹	3.22	17.0	1949.....	1,955,095	3.53	19.5
1953.....	479,033 ¹	3.37	17.1	1950.....	1,944,740 ²	3.46	19.3
Ontario—				1951.....	2,209,319 ²	3.47	19.1
1949.....	654,503	3.56	21.2	1952.....	2,371,033 ²	3.47	19.5
1950.....	672,667 ¹	3.52	21.9	1953.....	2,560,844 ²	3.53	19.5
1951.....	794,499 ¹	3.54	21.1				

¹ Excludes bonds assumed by the province.

33.—Gross Bonded Debt (exclusive of Treasury Bills) of Provincial Governments by Currency of Payments as at Fiscal Year Ends Nearest Dec. 31, 1949-53

Payable in—	1949	1950	1951	1952 ¹	1953 ¹
	\$'000	\$'000	\$'000	\$'000	\$'000
Canada only.....	1,361,933	1,421,651	1,450,160	1,522,623	1,623,245
London (England) only.....	28,670	17,866	16,643	16,643	9,587
London and Canada.....	7,582	4,467	3,499	3,499	2,974
New York (U.S.A.) only.....	—	16,875	265,025	358,255	472,973
New York and Canada.....	346,182	300,867	296,047	297,243	284,614
London, New York, and Canada.....	210,728	183,014	177,945	172,770	167,451
Totals.....	1,955,095	1,944,740 ²	2,209,319 ²	2,371,033 ²	2,560,844 ²

¹ Years ended Mar. 31.

² Excludes bonds assumed by the provinces.

34.—Provincial Government Direct and Indirect Debt (less Sinking Funds) as at Mar. 31, 1954

Direct and Indirect Debt	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Direct Debt											
Funded Debt—											
Bonded debt.....	15,000	10,850 ¹	203,496	202,019	479,443 ²	1,013,131 ²	161,750	164,293	81,043	222,129	2,562,159
Less Sinking Funds.....	1,828	8,622	21,925	37,871	115,897	145,794	37,549	20,568	—	511,118	446,972
Net bonded debt.....	13,172	14,228	181,571	164,148	363,545	867,337	124,201	143,625	81,043	163,011	2,116,187
Treasury bills ³	—	—	—	—	—	—	16,225	27,302	10,739	21,282	75,528
Net Funded Debt.....	13,172	14,228	181,571	164,148	363,545	867,337	140,426	170,927	91,782	184,273	2,191,715
Short term treasury bills ⁴	—	1,524 ⁵	—	—	—	500	7,669	5,225	—	100	13,494
Savings deposits and certificates.....	—	889	—	—	—	—	—	60	—	—	1,556
Temporary loans and overdrafts.....	—	—	—	—	—	—	—	—	—	—	1,989
Accounts and other payables—											
Trust funds and other deposits.....	—	25	2,586	311	8,270	38,160	2,049	31	—	9,615	61,047
Other.....	818	46	2,201	3,958	18,375	59,406 ⁶	986	2,769	6,236	21,150	115,945
Accrued interest and other accrued expenditure.....	206	177	1,929	2,876	4,144	11,353	3,542	1,375	111	2,183	27,896
Totals, Direct Debt (less Sinking Funds).....	14,208	16,959	188,287	171,293	394,640	976,756	154,672	180,387	98,389	217,321	2,412,942
Indirect Debt											
Guaranteed bonds or debentures.....	5,498	531	802	8,501	329,212	779,817	12,296	—	2	64,364	1,201,023
Less Sinking Funds.....	—	—	139	280	263	4,973	—	—	—	2,557	8,212
Net guaranteed bonds or debentures.....	5,498	531	663	8,221	328,949	774,844	12,296	—	2	61,807	1,192,811
Guaranteed bank loans.....	4,403	—	987	1,903	2,137	3,451	—	3,220	4,389	—	20,490
Municipal improvement assistance act loans.....	—	—	394	224	1,212	—	59	309	306	887	3,395
Other guarantees.....	27,011 ⁷	—	—	—	—	—	—	42	—	—	27,053
Totals, Indirect Debt (less Sinking Funds).....	36,912	535	2,014	10,348	332,295	778,295	12,355	3,571	4,697	62,694	1,245,749
Totals, Direct and Indirect Debt (less Sinking Funds).....	51,120	17,524	190,331	181,641	726,938	1,755,051	167,027	183,958	103,086	280,015	3,658,691
Direct debt (less Sinking Funds) per capita ⁸	35.70	161.80	279.77	313.15	89.94	193.57	186.80	205.45	94.70	171.66	158.98
Indirect debt (less Sinking Funds) per capita ⁸	92.74	5.10	3.04	18.92	75.73	154.24	14.93	4.07	4.52	49.52	81.94

¹ Includes \$50,000 bonds issued by the Provincial Sanatorium Commission.
² Includes bonds assumed: Que., \$415,000; Ont., \$900,000.
³ Includes trust deposits not separable from personal saving deposits.
⁴ Having a term of less than two years.
⁵ Includes \$59,122,000 net liability of the province re Province of Ontario Savings Office.
⁶ Based on estimated population as at June 1, 1954, see p. 151.
⁷ Deposits in the Newfoundland Savings Bank.
⁸ Based on estimated population as at June 1, 1954.

Section 4.—Municipal Finance

Subsection 1.—Municipal Assessed Valuations

The revenue resources of municipalities are limited generally to direct taxation based on assessed valuations of real and other types of property. In the Provinces of Prince Edward Island, Nova Scotia, New Brunswick, Manitoba and Alberta, municipalities assess and tax personal property. In Alberta municipal districts the valuations of personal property assessed have risen sharply with the growth of the oil industry. In Manitoba the personal property tax is used generally by all classes of municipalities except cities. Aside from property the most important type of valuation for taxation purposes is business assessment, although not all provinces assess for business purposes separately and distinctly from real property valuation. A variation in methods, schedules and rates exists not only between provinces but also between municipalities within the same province. Some municipalities use the rental basis, others the value of floor space occupied and still others the capital value of the premises occupied. Three provinces have other miscellaneous types of assessment, the general forms of which are given in the footnotes to Table 35.

The figures in Table 35 are not entirely comparable on an interprovincial basis from the standpoint of relative values of properties taxable for municipal purposes. Each province operates under its own assessment laws which are not all similar either in application or in effect. For instance in British Columbia improvements cannot be taxed on a value in excess of 75 p.c. of taxable values; the values actually taxed in 1953 ranged from nil to 75 p.c.; for all municipalities the total improvements actually taxed represented 53.5 p.c. of total taxable values. In addition there are other intra-provincial inconsistencies between municipalities which, in turn, further affect interprovincial comparisons. These may be said to be caused by the lack of integrated municipal assessment systems and uniform standards for establishing values on a province-wide basis, under the direction and control of a central authority. However there has been considerable progress towards uniformity and improved procedure in recent years.

Complete figures for tax-exempt properties are not available for each province but the information given shows that these properties have assumed relatively high proportions.

35.—Municipal Assessed Valuations by Province 1949-53

Province and Year	Taxable Valuations on which Taxes were Levied					Total Exemptions ²
	Real Property	Personal Property	Business	Other ¹	Total	
	\$	\$	\$	\$	\$	\$
Newfoundland³.....	..	..	..	..	..	..
P. E. Island—⁴						
1949.....	13,714,935	5,777,847	..	..	19,492,782	7,456,500
1950.....	16,872,045	6,085,510	..	..	22,957,555	7,788,500
1951.....	23,539,274	9,650,989	..	..	33,190,263	9,585,500
1952.....	25,767,825	9,822,300	..	..	35,590,125	9,595,500
1953.....	25,340,017	10,832,041	..	..	36,172,058	9,424,200
Nova Scotia—						
1949.....	179,425,853	35,658,983	11,826,635	4,039,860	230,951,331	96,594,851
1950.....	186,588,461	36,277,551	12,527,060	4,212,700	239,605,772	100,567,331
1951.....	223,083,830	49,077,698	13,704,315	4,582,280	290,448,123	121,862,179
1952.....	240,575,423	55,167,734	14,315,320	4,745,615	314,804,092	135,475,897
1953.....	253,698,529	60,127,611	14,499,605	4,983,895	333,309,640	143,777,931

For footnotes, see end of table.

35.—Municipal Assessed Valuations by Province 1949-53—concluded

Province and Year	Taxable Valuations on which Taxes were Levied					Total Exemptions ²
	Real Property	Personal Property	Business	Other ¹	Total	
	\$	\$	\$	\$	\$	\$
New Brunswick—						
1949.....	232,968,026	49,867,238	20,242,638	4,548,246	307,626,148	..
1950.....	248,004,509	52,053,312	20,005,507	5,049,356	325,112,684	..
1951.....	277,823,120 ³	57,940,014	20,084,431	5,549,813	361,397,378	..
1952.....	304,672,416 ³	66,139,670	18,448,868	7,792,704	397,053,658	..
1953.....	308,956,073 ³	71,464,255	20,959,848	6,382,674	407,762,850	..
Quebec—						
1949.....	..	...	..	—	..	..
1950.....	..	...	..	—	3,250,913,000	956,491,000
1951.....	3,667,164,730	...	..	—	3,667,164,730	1,020,186,968
1952.....	3,868,454,172	...	..	—	3,868,454,172	1,110,220,252
1953.....	4,090,775,764	...	..	—	4,090,775,764	1,194,152,084
Ontario—						
1949.....	3,541,093,264	...	439,425,168	—	3,980,518,432	690,345,875
1950.....	3,724,238,000	...	475,081,000	—	4,199,319,000	813,812,000
1951.....	3,883,874,441	...	526,167,093	—	4,410,041,534	873,847,077
1952.....	4,253,111,819	...	520,867,384	—	4,773,979,203	913,310,338
1953.....	4,474,083,569	...	569,507,055	—	5,043,590,624	952,468,395
Manitoba—						
1949.....	545,455,305	6,765,685	20,686,352	—	572,907,342	150,227,268
1950.....	567,470,959	6,866,910	23,655,349	—	597,993,218	150,610,692
1951.....	588,596,298	6,841,122	25,064,239	—	620,501,659	156,258,385
1952.....	615,894,060	6,513,999	27,614,244	—	650,022,303	154,354,005
1953.....	643,648,796	6,903,165	29,787,151	—	680,339,112	155,561,511
Saskatchewan—						
1949.....	851,346,814	...	45,358,694	74,830	896,780,338	125,049,181
1950.....	866,976,708	...	45,874,623	72,780	912,924,111	129,356,385
1951.....	881,911,929	...	46,341,360	61,320	928,314,609	477,649,877
1952.....	894,296,222	...	46,957,456	27,100	941,280,778	491,314,850
1953.....	916,097,534	...	48,291,955	13,470	964,402,959	496,281,834
Alberta—						
1949.....	689,096,752	41,259,257	19,690,072	—	750,046,081	76,510,667
1950.....	736,603,247	39,823,230	24,392,850	—	800,819,327	88,450,368
1951.....	803,411,739	47,376,105	29,033,624	—	879,821,468	91,290,874
1952.....	895,586,606	58,114,430	33,790,852	—	987,491,888	106,461,418
1953.....	926,516,030	61,890,088	39,137,993	—	1,027,544,111	117,878,447
British Columbia—						
1949.....	573,460,256	...	..	—	573,460,256	206,974,496
1950.....	622,441,721	...	..	—	622,441,721	226,258,620
1951.....	658,828,264	...	..	—	658,828,264	249,473,826
1952.....	712,927,512	...	..	—	712,927,512	266,362,640
1953.....	771,129,623	...	..	—	771,129,623	289,534,414

¹ Includes the following: N.S.—household tax, Halifax; N.B.—occupancy tax, Fredericton, and rentals tax, Moncton; Sask.—special franchise. ² Total of valuations assessed but exempt from taxation. Excludes exempt property not assessed.

³ Taxes are levied on rental values in some municipalities using a property base. ⁴ Includes estimated values for some municipalities; total exemptions are incomplete.

⁵ Includes personal property tax for local improvement districts and commissions, not separable.

Subsection 2.—Municipal Taxation

Table 36 shows the local taxes levied by municipalities and by some school authorities in the years 1949-53 and the total taxes outstanding at the end of those years.

36.—Municipal Taxation by Province 1949-53

Province and Year	Tax Levy	Tax Collections, Current and Arrears		Taxes Receivable, Current and Arrears	Property Acquired for Taxes	Total Taxes Receivable and Property Acquired for Taxes	
		Total	P.C. of Levy			Total	P.C. of Levy
	\$	\$		\$	\$	\$	
Newfoundland—							
1949.....	931,215	845,334	90.8	265,703	...	265,703	28.5
1950.....	1,030,979	969,971	94.1	353,138	...	353,138	34.3
1951.....	1,453,917	1,347,540	92.7	404,946	...	404,946	27.9
1952.....	1,767,602	1,630,887	92.3	515,489	...	515,489	29.2
1953.....	1,942,294	1,938,436	99.8	593,116	...	593,116	30.5
Prince Edward Island—							
1949.....	777,767	761,625	97.9	225,577	..	225,577	29.0
1950.....	864,602	822,688	95.2	244,482	..	244,482	28.3
1951.....	1,073,484	997,612	92.9	288,833	..	288,833	26.9
1952.....	1,348,642	1,238,427	91.8	351,642	..	351,642	26.1
1953.....	1,409,941	1,277,892	90.6	361,961	..	361,961	25.7
Nova Scotia—							
1949.....	13,610,727	13,199,199	96.9	4,038,184	179,418	4,217,602	31.0
1950.....	14,320,422	13,946,136	97.4	4,203,943	1,007,109	5,211,052	36.4
1951.....	16,531,193	15,899,368	96.2	4,702,645	175,781	4,878,426	29.5
1952.....	19,250,594	18,837,622	97.9	4,917,966	169,157	5,087,123	26.4
1953.....	20,122,459	19,345,162	96.1	5,575,087	169,837	5,744,924	28.5
New Brunswick—							
1949.....	11,116,471	10,201,899	91.8	3,544,853	80,629	3,625,482	32.6
1950.....	12,294,380	11,178,375	91.0	4,356,118	183,070	4,539,188	36.9
1951.....	12,579,650	12,116,729	96.3	4,207,475	89,148	4,296,623	34.2
1952.....	15,181,021	14,143,016	93.2	4,416,044	74,433	4,490,479	29.6
1953.....	17,106,221	15,501,974	90.6	5,518,178	66,083	5,584,261	32.6
Quebec—							
1950 ¹	80,204,341	..	..	18,549,933	4,205,544	22,755,477	28.4
1951.....	143,689,638	..	..	23,091,184	3,554,166	26,645,350	18.5
1952.....	159,005,705	..	..	20,976,477	2,806,924	23,783,401	15.0
1953.....	173,944,681	..	..	23,439,993	2,386,282	25,826,275	14.8
Ontario—							
1949.....	170,378,640	167,154,308	98.1	16,223,329	5,385,640	21,608,969	12.7
1950.....	188,959,809	187,672,943	99.3	17,707,760	4,801,022	22,508,782	11.9
1951.....	228,919,382	221,230,840	96.6	21,948,812	4,678,915	26,627,727	11.6
1952.....	263,196,643	259,438,790	98.6	24,764,795	4,459,226	29,224,021	11.1
1953.....	283,132,586	279,738,359	98.8	27,289,109	3,881,638	31,170,747	11.0
Manitoba—							
1949.....	30,423,998	29,223,263	96.1	5,528,560	4,266,927	9,795,487	32.2
1950.....	32,658,247	30,416,670	93.1	6,977,569	3,769,230	10,746,799	33.0
1951.....	36,415,815	34,735,950	95.4	7,995,116	3,584,765	11,579,881	31.8
1952.....	39,280,255	37,398,604	95.2	8,908,189	3,247,678	12,155,867	30.9
1953.....	40,669,833	38,464,628	94.6	10,415,741	3,017,461	13,433,202	33.0
Saskatchewan—²							
1949.....	34,202,279	32,030,434	93.7	11,411,352	9,724,520	21,135,872	61.8
1950.....	36,215,067	33,241,810	91.8	13,002,572	9,111,191	22,113,763	61.1
1951.....	39,591,746	37,655,710	95.1	12,937,436	8,497,767	21,435,203	54.1
1952.....	43,067,367	43,218,103	100.3	11,369,397	7,565,541	18,934,938	44.1
1953.....	49,041,219	47,162,730	96.2	11,521,577	7,005,869	18,527,446	37.8
Alberta—							
1949.....	38,343,373	37,572,671	98.0	9,672,256	11,028,278	20,700,534	54.0
1950.....	42,251,428	39,648,740	93.8	11,445,409	10,772,481	22,217,890	52.6
1951.....	46,065,178	44,066,024	95.7	13,022,860	10,356,788	23,379,648	50.8
1952.....	53,079,124	52,560,222	99.0	13,193,743	9,756,823	22,950,566	43.2
1953.....	58,289,130	56,714,031	97.3	14,403,972	9,562,383	23,966,355	41.1
British Columbia—							
1949.....	35,935,608	35,292,415	98.2	3,024,234	6,160,178	9,184,412	25.6
1950.....	38,958,707	38,941,143	100.0	3,135,089	6,003,092	9,138,181	23.5
1951.....	43,190,910	42,746,414	99.0	3,616,090	5,679,215	9,295,305	21.5
1952.....	48,577,199	48,396,892	99.6	3,883,621	5,314,659	9,198,280	18.9
1953.....	52,888,558	52,726,801	99.7	4,199,967	4,981,035	9,180,802	17.4

¹ Does not include schools; information not available. taxes (see text following this table).² Excludes certain provincial and other special

Because of the considerable differences in the division of responsibility for services between the provincial governments and their respective municipalities, extreme caution should be exercised in using the figures in Table 36 as a basis for interprovincial comparisons of the relative burden of municipal taxation. Also, in Saskatchewan municipalities are required to levy certain taxes for and on behalf of the provincial government and for other special purposes for which there is no comparable situation in other provinces. The amounts of such taxes excluded in the Saskatchewan municipal levies in Table 36 are as follows:—

<i>Tax</i>	1949	1950	1951	1952	1953
	\$	\$	\$	\$	\$
SASKATCHEWAN—					
Public revenue.....	1,751,388	1,809,703	1,830,314	1,845,949	...
Hail.....	1,092,058	1,217,658	1,111,465	2,069,074	2,863,832
Telephone.....	678,358	718,987	760,610	814,269	863,634
Drainage.....	14,762	13,101	13,157	11,813	6,794
TOTALS.....	3,536,566	3,759,449	3,715,546	4,741,105	3,734,260

Subsection 3.—Municipal Debt

The rapid growth experienced by municipalities in Canada coupled with increased demands and responsibilities for improvements, schools, utilities and other services or facilities has resulted in the incurring of a heavy burden of debt. Debenture borrowings increased rapidly in the period 1900-12 and again during the 1920's and early 1930's. From 1933 to 1946 the trend was downward but since 1947 it has shown a considerable increase.

Several important factors contributed to the 1933-46 decline—not least important the measure of control exercised by the provincial governments over capital expenditure involving the incurring of debt. In addition there was a more or less orderly retrenchment during the depression years following periods of what proved to be unwarranted expansion which, along with widespread demands to ease the tax burden on real property, resulted in the severe curtailment of capital undertakings and works requiring debenture financing. Also the greater part of the municipal longterm debt was represented by serial or instalment type debentures which require yearly repayments of principal. During the 1930's the rehabilitation of existing assets and new works and improvements necessitated by normal expansion and development were sacrificed mainly in the interests of the taxpayers. After the outbreak of war in 1939 the policy of deferment was continued, or even extended, to free the financial market for the needs of the Federal Government in meeting war-financing requirements. Since the end of the War however municipalities have resumed their improvement programs and thus have increased their debenture debts. Table 37 shows figures of municipal indebtedness for 1952-53 and includes temporary loans and other liabilities in addition to debenture debt.

37.—Debt of Municipal and School Corporations by Province for their Fiscal Years Ended in 1953

NOTE.—Figures shown are compiled from published reports of provincial Departments of Municipal Affairs, auditors reports and financial statements of municipalities and information secured from other official sources.

Direct and Indirect Debt	New-foundland	Prince Edward Island	Nova Scotia	New Brunswick
	\$	\$	\$	\$
Direct Debt (less Sinking Funds).....	5,072,445	4,115,374	56,875,948	54,902,571
Debenture debt.....	4,498,748	4,526,062	59,125,674	55,279,186
Less Sinking Funds.....	267,044	1,039,172	9,486,972	6,903,628
Net Debenture Debt.....	4,231,704	3,486,890	49,638,702	48,375,558
Temporary loans and bank overdrafts.....	170,380	602,781	3,612,119	4,156,285
Accounts payable and other liabilities.....	670,361	25,703	3,625,127	2,370,728
Indirect Debt (less Sinking Funds).....	..	..	730,779	3,810,000
Guaranteed bonds, debentures, etc.....	..	..	946,500	3,810,000
Guaranteed bank loans.....	..	..	—	—
Less Sinking Funds.....	..	..	215,721	—
Grand Totals.....	5,072,445	4,115,374	57,606,727	58,712,571

37.—Debt of Municipal and School Corporations by Province for their Fiscal Years Ended in 1953—concluded

Direct and Indirect Debt	Quebec	Ontario	Manitoba	Saskatchewan
	\$	\$	\$	\$
Direct Debt (less Sinking Funds)	724,651,999	242,637,827	79,628,112	56,758,909
Debenture debt.....	607,527,302 ¹	632,344,591	75,164,863	46,381,586
Less Sinking Funds.....	17,491,147	5,949,260	16,237,455	6,571,866
Net Debenture Debt.....	590,036,155	626,395,331	58,927,408	39,809,720
Temporary loans and bank overdrafts.....	23,492,258	47,883,359 ²	13,141,012	3,826,982
Accounts payable and other liabilities.....	111,123,586	68,359,137 ²	7,559,692	13,122,207
Indirect Debt (less Sinking Funds)	524,300	10,400,480	1,310,600	..
Guaranteed bonds, debentures, etc.....	—	10,999,642	1,310,600	..
Guaranteed bank loans.....	524,300	—	—	..
Less Sinking Funds.....	—	599,162	—	..
Grand Totals	725,176,299	753,038,307	80,938,712	56,758,909
	Alberta	British Columbia	Totals	
			1952 ²	1953
	\$	\$	\$	\$
Direct Debt (less Sinking Funds)	180,950,679	196,283,927	1,825,117,307	2,101,877,791
Debenture debt.....	155,006,131	204,320,319	1,611,184,000 ³	1,844,174,462
Less Sinking Funds.....	1,295,325	27,241,564	103,274,416	92,483,433
Net Debenture Debt.....	153,710,806	177,078,755	1,507,909,584	1,751,691,029
Temporary loans and bank overdrafts.....	6,637,631	2,785,296	105,791,448	106,308,103
Accounts payable and other liabilities.....	20,602,242	16,419,876	211,416,275	243,878,659
Indirect Debt (less Sinking Funds)	350,000	13,000	17,918,236	17,139,159
Guaranteed bonds, debentures, etc.....	—	13,000	17,564,027	17,079,742
Guaranteed bank loans.....	350,000	—	1,112,300	874,300
Less Sinking Funds.....	—	—	758,091	814,883
Grand Totals	181,300,679	196,296,927	1,843,035,543	2,119,016,950

¹ Includes Montreal Tramways Company bonds and debentures assumed by the City of Montreal amounting to \$24,944,000 and \$17,370,000 debentures issued by the Montreal Tramways Commission, \$315,000 of the latter issue being held by the Commission in the Sinking Fund.

² Excludes current liabilities of schools and liabilities of other local boards and commissions but includes in lieu thereof amounts due by municipalities to such schools and other local authorities; information required to make the necessary eliminations on this account is not available from published reports.

³ Includes Montreal Tramways Company bonds and debentures assumed by the City of Montreal amounting to \$25,330,000 and \$18,000,000 debentures issued by the Montreal Tramways Commission, \$489,000 of which issues were held by the Commission in the Sinking Fund.

CHAPTER XXV.—NATIONAL ACCOUNTS AND RELATED STATISTICS

CONSPECTUS

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SECTION 2. CANADA'S INTERNATIONAL INVESTMENT POSITION.....	1092	SECTION 4. FEDERAL INCORPORATION OF COMPANIES.....	1099

NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Section 1.—National Accounts*

The national accounts constitute a set of accounting summaries for the nation as a whole and portray economic activity in terms of transactions taking place between different sections of the economy. By combining and summarizing these operations into their various classes, information may be obtained on the functioning of the economy which is of particular interest to governments concerned with problems of full employment, taxation and prices, and to businessmen concerned with programs of investment and marketing.

This measurement of the nation's output is in terms of established market prices; hence it is necessary to keep in mind that the value of the nation's production may change because of price variations as well as changes in volume of output.

Data are available showing volume changes in gross national expenditure in addition to the value figures. Gross national expenditure is shown in Table 3 in constant dollars (i.e., in terms of average prices prevailing in the period 1935-39). Because the gross national expenditure equals the gross national product, these data also reflect volume changes in the production of goods and services as measured by the gross national product. For all other tables the data are expressed in current dollars so that year-to-year changes must be considered in relation to price changes over the period.

National accounts calculated on a quarterly basis are a logical extension of the annual national accounts and have been published since 1953. However their preparation on a reliable and analytically useful basis is rather more difficult because of the scarcity of quarterly data, special problems arising from the measurement of farm production and problems in connection with seasonal variation.

The tables in this Section cover the more important aspects of the national income analysis in annual terms. Tables 1 and 2 show the main aggregates of national income, gross national product, gross national expenditure and their components and other tables are included to show the source and disposition of personal income, government revenue and expenditure and personal expenditure on consumer goods and services.

* Prepared in the Research and Development Division, Dominion Bureau of Statistics.

National Income.—Net national income at factor cost measures the current earnings of Canadian factors of production (i.e., land, labour, capital) from productive activity. It includes wages and salaries, profits, interest, net rent and net income of farm and non-farm unincorporated business.

Gross National Product.—Gross national product, by totalling all costs arising in production, measures the market value of all final goods and services produced in the current period by Canadian factors of production. It is equal to national income plus net indirect taxes (indirect taxes less subsidies), plus depreciation allowances and similar business costs.

Personal Income.—Personal income is the sum of current receipts of income whether or not these receipts represent earnings from production. It includes transfer payments from government such as family allowances, unemployment insurance benefits and war service gratuities, in addition to wages and salaries, net income of unincorporated business, interest and dividends and net rental income of persons. It does not include undistributed profits of corporations and other elements of the national income not paid out to persons.

Gross National Expenditure.—Gross national expenditure measures the same aggregate as gross national product, namely, total production of final goods and services at market prices, by tracing the disposition of production through final sales to persons, to governments, to business on capital account (including changes in inventories) and to non-residents (exports). Imports of goods and services, including net payments of interest and dividends to non-residents, are deducted since the purpose is to measure only Canadian production.

Historical Perspective.—A brief commentary at p. 1168 of the 1955 Year Book covers economic trends since 1926 and is followed by a more detailed account of the impressive expansion in production and income during the postwar period to 1953.

Current Perspective.—*Gross National Product and National Income.*—The year 1954 was one of adjustment for the Canadian economy. In that year for the first time since 1946 Canada's gross national product declined. The drop of almost 2 p.c. from \$24,449,000,000 in 1953 to \$24,041,000,000 reflected a decline in the value of farm production; non-farm production showed a small increase of about 1 p.c., an increase completely accounted for by a slight rise in the domestic price level. This relative stability indicated by the year-over-year comparison obscures the fact that the contraction in industrial activity which began in the third quarter of 1953 was reversed by mid-1954 as gross national product moved upward in the last half of the year.

In the year-over-year comparison the experience of the various industrial groups in 1954 also varied considerably. The decline of about 4 p.c. in the manufacturing industries was offset by an increase in output of the primary industries (except agriculture), public utilities and service industries. Accompanying these developments on the production side, persons with jobs in the non-farm sector declined by about 1 p.c. in 1954. Despite this decline however labour income continued to rise throughout the year. Higher average hourly wage rates more than offset declines in total employment and average hours worked so that for the year as a whole wages, salaries and supplementary labour income, at \$11,989,000,000, were 2 p.c. above the level of 1953. This upward trend in wages and salaries throughout the year constituted an important stabilizing influence in the economy.

Investment income in 1954 declined about 2 p.c. from \$3,800,000,000 in 1953 to \$3,715,000,000 in 1954, caused mainly by an estimated decline of 6 p.c. in corporation profits which constitute a major component of investment income. Interest and net rental income of persons rose by about 10 p.c. in 1954.

Accrued net income of farm operators from farm production declined about one-third from \$1,653,000,000 in 1953 to \$1,058,000,000 in 1954. The decline was accounted for by a drop of more than \$500,000,000 in the value of crop production which reflected adverse weather conditions and severe rust damage to the grain crop in the western provinces. The net income of non-farm unincorporated business also declined somewhat from the 1953 total, amounting to \$1,645,000,000 in 1954. Certain industry groups however such as professional services and construction, recorded gains in the same comparison.

1.—National Income and Gross National Product 1939-54

(Millions of dollars)

Item	1939	1944	1946	1950 ¹	1951	1952 ^r	1953 ^r	1954
Wages, salaries and supplementary labour income.....	2,575	4,940	5,323	8,311	9,716	10,868	11,706	11,989
Military pay and allowances.....	32	1,068	340	137	201	270	309	367
Investment income.....	917	1,829	1,975	3,155	3,642	3,763	3,800	3,715
Net Income of Unincorporated Business—								
Accrued net income of farm operators from farm production.....	385	1,185	1,112	1,503	2,072	1,851	1,653	1,058
Net income of non-farm unincorporated business.....	464	804	1,071	1,444	1,507	1,574	1,688	1,645
Net National Income at Factor Cost.	4,373	9,826	9,821	14,550	17,138	18,326	19,156	18,774
Indirect taxes less subsidies.....	733	1,111	1,269	2,018	2,478	2,714	2,901	2,914
Depreciation allowances and similar business costs.....	610	957	903	1,636	1,910	2,120	2,411	2,511
Residual error of estimate.....	—9	60	33	—1	—52	95	—19	—158
Gross National Product at Market Prices.....	5,707	11,954	12,026	18,203	21,474	23,255	24,449	24,041

¹ Newfoundland included from 1950.

Gross National Expenditure.—Consumer expenditure and investment in new housing construction were the two important sustaining influences on the demand side in 1954. With the exception of government expenditure on goods and services, which remained level, all other major expenditure categories showed declines in 1954 as compared with 1953. During the period of the downturn in production (mid-1953 to mid-1954) the declines in the seasonally adjusted expenditure components were particularly sharp but from mid-1954 to the end of the year all expenditure items were rising again with the exception of outlays for new machinery and equipment.

The major expansionary force in the economy in 1954 was personal expenditure on goods and services which rose 4 p.c. to \$15,676,000,000 from \$15,125,000,000 in 1953. This was supported by higher labour income and interest and net rental income of persons together with increases in other components of personal income. Expenditures for services were higher by 8 p.c. and for non-durable goods by 3 p.c. but expenditures for durable goods declined by 6 p.c. With prices slightly higher than in the preceding year the volume increase in total personal expenditure amounted to approximately 3 p.c.

As already stated expenditure for goods and services by all levels of government remained practically unchanged in 1954 at \$4,361,000,000. A decline at the federal level of about 4 p.c. from 1953, concentrated in defence expenditure, was offset by gains of 5 p.c. and 7 p.c. respectively in provincial and municipal government expenditures.

The steady growth in outlays for capital goods, a prominent feature of the postwar period, was interrupted in 1954. Gross domestic investment (including inventory change) declined by 6 p.c. from \$4,840,000,000 in 1953 to \$4,553,000,000 in 1954, a decline more than accounted for by sharply reduced outlays for machinery and equipment (off by 17 p.c.) and by somewhat smaller expenditures for new non-residential construction (off by 2 p.c.). On the other hand outlays for new housing continued to increase, gaining 10 p.c. over 1953. In this connection it may be noted that a change in the National Housing Act in early 1954 reduced downpayment requirements on houses and extended the repayment period of mortgage loans; also a change in the Bank Act permitted the chartered banks to extend loans on home mortgages. Price changes were fairly small in the components of gross domestic investment in 1954 so that volume changes did not differ significantly from value changes.

Inventory developments were of major importance in the changes that occurred in the annual levels of production in 1954. As compared with 1953 the inventory sector shifted from a position of substantial net accumulation amounting to \$549,000,000 to a position of net liquidation of \$280,000,000. This represented a turn-around of \$829,000,000 or 3 p.c. of gross national product, more than half of which was attributable to movements in business inventories, particularly in manufacturing; the remainder was accounted for by depletions in grain and farm-held inventories in 1954 as compared with some accumulation in 1953.

Exports of goods and services declined 5 p.c. from \$5,400,000,000 in 1953 to \$5,136,000,000 in 1954. Exports of grain and flour dropped by \$295,000,000, reflecting the improved world supply position of wheat and coarse grains, and constituted the major factor in the decline in exports since the third quarter of 1953. Other exports were well maintained as a whole, although the experience of individual items varied. Imports of goods and services also declined 5 p.c. during the year, amounting to \$5,562,000,000 as compared with \$5,843,000,000 in 1953.

The deficit of \$426,000,000 for 1954 was slightly less than the deficit of \$443,000,000 for 1953. Export prices were a little lower and import prices were approximately unchanged so that there was a small deterioration in the terms of trade. The decline in imports of foreign goods however helped to offset the downward effect that the declines in the various demand factors exercised on total Canadian production.

2.—Gross National Expenditure 1939-54

(Millions of dollars)

Item	1939	1944	1946	1950 ¹	1951	1952*	1953*	1954
Personal expenditure on consumer goods and services.....	3,904	6,187	7,977	12,029	13,273	14,366	15,125	15,676
Government expenditure on goods and services.....	735	5,022	1,832	2,326	3,243	4,245	4,359	4,361
Gross Domestic Investment—								
New residential construction.....	185	225	371	801	781	786	1,061	1,166
New non-residential construction.....	166	257	443	1,026	1,260	1,554	1,706	1,676
New machinery and equipment.....	254	377	584	1,389	1,769	1,916	2,073	1,711
Change in inventories.....	331	-46	519	960	1,620	310	549	-280
Exports of goods and services.....	1,451	3,561	3,210	4,183	5,089	5,573	5,400	5,136
Deduct: Imports of goods and services.....	-1,328	-3,569	-2,878	-4,513	-5,613	-5,400	-5,843	-5,562
Residual error of estimate.....	+9	-60	-32	+2	+52	-95	19	157
Gross National Expenditure at Market Prices.....	5,707	11,954	12,026	18,203	21,474	23,255	24,449	24,041

¹ Newfoundland included from 1950.

3.—Gross National Expenditure in Constant (1935-39) Dollars 1939-54

(Millions of dollars)

Item	1939	1944	1946	1950 ¹	1951	1952 [*]	1953 [*]	1954
Personal expenditure on consumer goods and services.....	3,820	5,030	6,189	7,022	6,978	7,382	7,796	7,998
Government expenditure on goods and services.....	742	4,001	1,484	1,375	1,713	2,149	2,137	2,063
Gross Domestic Investment—								
New residential construction.....	180	150	225	340	290	284	372	407
New non-residential construction.....	164	204	330	554	606	699	738	726
New machinery and equipment.....	247	298	467	784	890	969	1,031	849
Change in inventories.....	338	-77	226	303	453	220	284	-120
Exports of goods and services.....	1,494	2,614	2,079	2,027	2,215	2,448	2,440	2,344
Deduct: Imports of goods and services.....	-1,330	-2,450	-1,930	-2,095	-2,342	-2,426	-2,637	-2,508
Residual error of estimate and adjusting entries.....	+ 9	-49	-25	+20	+132	-48	-27	-34
Gross National Expenditure in Constant Dollars.....	5,664	9,721	9,045	10,330	10,935	11,677	12,134	11,725

¹ Newfoundland included from 1950.

Personal Income, Expenditure and Saving.—Although earnings from current production, as measured by the national income tabulations, were lower in 1954 (reflecting mainly the drop in accrued net income of farm operators and in corporation profits), the flow of income payments to persons was maintained and personal income amounted to \$18,173,000,000, a figure slightly higher than that for 1953. This stability in personal income resulted from the fact that labour income and interest and net income of persons were higher in 1954 and that, despite a drop in corporation profits, dividend payments to persons increased somewhat. Furthermore there was also a substantial increase in transfer payments from government, particularly in unemployment insurance benefits; transfer payments of \$1,601,000,000 in 1954 compared with \$1,460,000,000 in 1953.

As personal direct taxes remained at about the same level in 1954, personal disposable income, which amounted to \$16,747,000,000, was maintained in that year. Personal savings dropped to \$1,071,000,000 from \$1,600,000,000 in 1953 and constituted 6.4 p.c. of personal disposable income compared with 9.6 p.c. in 1953. With stability in income and a decline in the proportion of income saved, personal expenditure on consumer goods and services continued its upward trend.

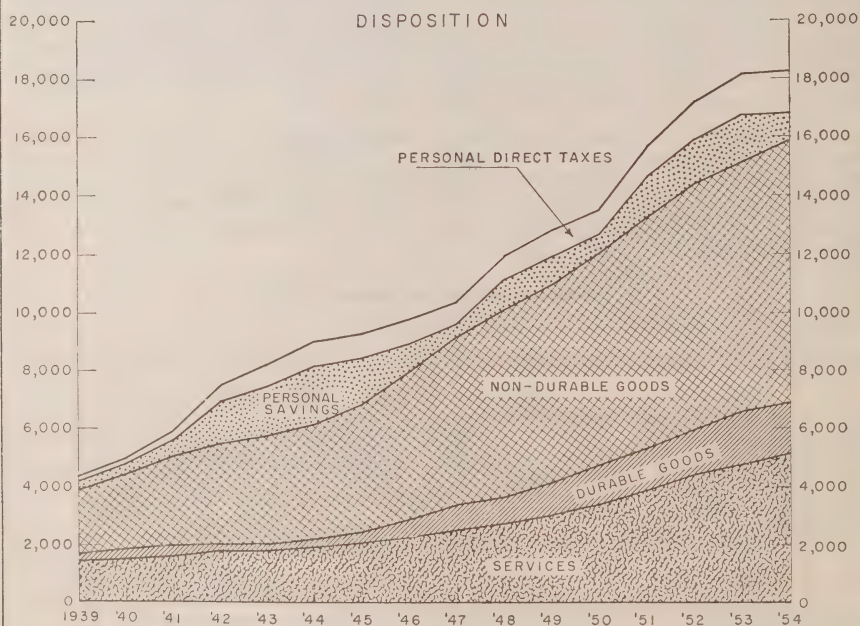
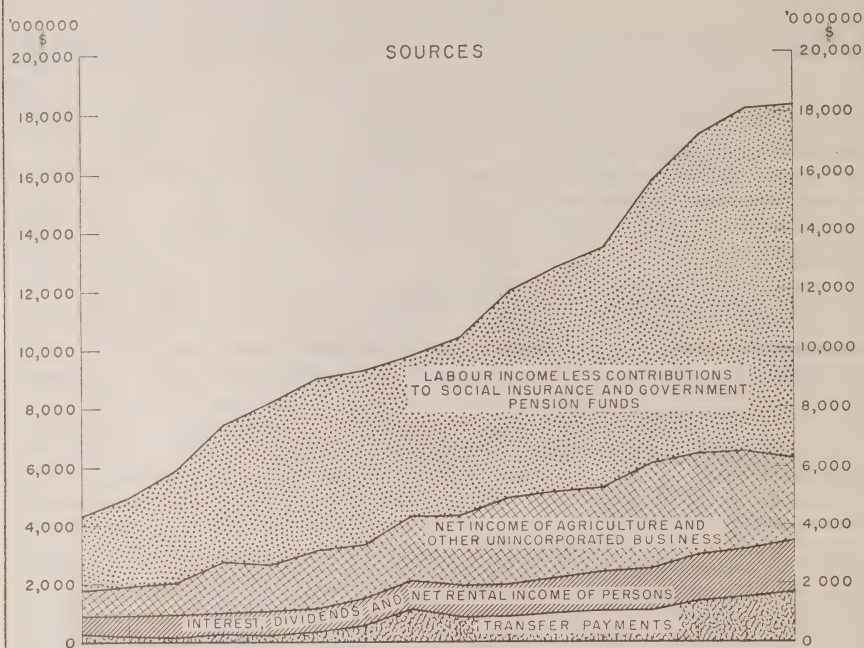
4.—Sources of Personal Income 1939-54

(Millions of dollars)

Item	1939	1944	1946	1950 ¹	1951	1952 [*]	1953 [*]	1954
Wages, salaries and supplementary labour income.....	2,575	4,940	5,323	8,311	9,716	10,868	11,706	11,989
Deduct: Employer and employee contributions to social insurance and government pension funds.....	-35	-133	-149	-256	-329	-358	-390	-395
Military pay and allowances.....	32	1,068	340	137	201	270	309	367
Net income received by farm operators from farm production.....	435	1,206	1,090	1,402	2,108	1,882	1,658	1,085

For footnote, see end of table, p. 1091.

PERSONAL INCOME 1939-54



4.—Sources of Personal Income 1939-54—concluded

Item	1939	1944	1946	1950 ¹	1951	1952 ^r	1953 ^r	1954
Net income of non-farm unincorporated business.....	464	804	1,071	1,444	1,507	1,574	1,688	1,645
Interest, dividends and net rental income of persons.....	602	836	957	1,295	1,406	1,566	1,669	1,825
Transfer payments (excluding interest)— From governments.....	229	259	1,106	1,033	1,032	1,360	1,460	1,601
Charitable contributions from corporations.....	6	11	12	25	27	27	28	28
Net bad debt losses of corporations.....	12	11	11	23	25	25	28	28
Totals, Personal Income.....	4,320	9,002	9,761	13,414	15,693	17,214	18,156	18,173

¹ Newfoundland included from 1950.

5.—Disposition of Personal Income 1939-54

(Millions of dollars)

Item	1939	1944	1946	1950 ¹	1951	1952 ^r	1953 ^r	1954
Personal Direct Taxes— Income taxes.....	62	772	711	612	890	1,177	1,287	1,290
Succession duties.....	28	39	54	66	69	73	73	77
Miscellaneous taxes.....	22	27	31	62	71	73	71	59
Purchases of goods and services.....	3,904	6,187	7,977	12,029	13,273	14,366	15,125	15,676
Personal savings.....	304	1,977	988	645	1,390	1,525	1,600	1,071
Totals, Personal Income.....	4,320	9,002	9,761	13,414	15,693	17,214	18,156	18,173

¹ Newfoundland included from 1950.

6.—Personal Expenditure on Consumer Goods and Services 1939-54

(Millions of dollars)

Item	1939	1944	1946	1950 ¹	1951	1952 ^r	1953 ^r	1954
Food.....	919	1,769	2,085	3,039	3,488	3,669	3,740	3,875
Tobacco and alcoholic beverages.....	281	624	846	1,094	1,155	1,288	1,322	1,340
Clothing and personal furnishings.....	490	966	1,191	1,568	1,708	1,842	1,880	1,826
Shelter.....	629	807	866	1,376	1,560	1,738	1,922	2,122
Household operation.....	522	660	935	1,504	1,590	1,809	1,915	1,975
Transportation.....	392	465	771	1,475	1,559	1,701	1,904	1,827
Personal and medical care and death expenses.....	257	369	478	730	813	910	989	1,037
Miscellaneous.....	414	527	805	1,243	1,400	1,409	1,453	1,674
Totals.....	3,904	6,187	7,977	12,029	13,273	14,366	15,125	15,676
Durable goods.....	292	296	590	1,343	1,399	1,588	1,793	1,682
Non-durable goods.....	2,210	3,928	5,073	7,241	7,969	8,374	8,578	8,880
Services.....	1,402	1,963	2,314	3,445	3,905	4,404	4,754	5,114

¹ Newfoundland included from 1950.

7.—Federal, Provincial and Municipal Government Revenue and Surplus or Deficit 1939-54

(Millions of dollars)

Item	1939	1944	1946	1950 ¹	1951	1952 ²	1953 ²	1954
Direct Taxes: Persons—								
Income taxes.....	62	772	711	612	890	1,177	1,287	1,290
Succession duties.....	28	39	54	66	69	73	73	77
Miscellaneous taxes.....	22	27	31	62	71	73	71	59
Direct Taxes: Corporations—								
Income and excess profits taxes ²	115	598	654	981	1,429	1,378	1,226	1,164
Withholding taxes.....	10	27	29	54	56	55	54	58
Indirect taxes.....	716	1,378	1,505	2,081	2,606	2,814	3,011	3,001
Investment Income—								
Interest.....	71	105	120	155	181	215	213	232
Profits of government business enterprises	19	222	243	245	275	317	349	331
Employer and employee contributions to social insurance and government pension funds.....	35	133	149	256	329	358	390	395
Deficit (+) or surplus(−) (on transactions relating to the national accounts).....	+41	+2,566	+133	−648	−1,053	−288	−253	−18
Totals, Revenue (plus deficit or minus surplus).....	1,119	5,867	3,629	3,864	4,853	6,172	6,421	6,589

¹ Newfoundland included from 1950.² Excess profits tax ceased to apply after Jan. 1, 1948.

8.—Federal, Provincial and Municipal Government Expenditure 1939-54

(Millions of dollars)

Item	1939	1944	1946	1950 ¹	1951	1952 ²	1953 ²	1954
Purchases of goods and services.....	735	5,022	1,832	2,326	3,243	4,245	4,359	4,361
Transfer Payments—								
Interest.....	172	319	455	442	450	467	492	540
Other.....	229	259	1,106	1,033	1,032	1,360	1,460	1,601
Subsidies.....	−17	267	236	63	128	100	110	87
Totals, Expenditure.....	1,119	5,867	3,629	3,864	4,853	6,172	6,421	6,589

¹ Newfoundland included from 1950.

Section 2.—Canada's International Investment Position*

Since 1948 there has been a sharp rise in the amount of non-resident capital invested in Canada and Canada's balance of international indebtedness had by 1955 risen to a new peak of close to \$7,500,000,000. The earlier peak of international indebtedness occurred in 1930 when it amounted to about \$6,500,000,000. This indebtedness had been accumulated in several periods of rapid Canadian growth in which dependence on external sources of capital was much greater than it is now. In the period ending in 1914, characterized by railway and other expansion associated with the opening of the Canadian West, Great Britain was the principal external source of capital. In the inter-war period of growth which followed, culminating in the early 1930's, there was a very great rise in

* Prepared in the Balance of Payments Section, International Trade Division, Dominion Bureau of Statistics. A more extended review appears in DBS report, *Canada's International Investment Position, 1926 to 1954* and some more recent statistics in the report, *The Canadian Balance of International Payments, 1955, and International Investment Position*.

United States investments in Canada and capital from that country supplemented domestic capital in the development of Canadian industry. During the next decade and a half, Canada was a consistent net exporter of capital. In the later 1930's before the outbreak of the second world war when economic and investment activity in Canada was still subnormal, Canada's balance of indebtedness to other countries was reduced moderately, mainly by repatriations and other withdrawals of capital. Later that reduction was sharpened by special measures associated with wartime and early postwar arrangements for financing the movement of Canadian commodities abroad. The reductions in balance of indebtedness occurred through official repatriations of securities from the United Kingdom, by the extension of Canadian loans to the United Kingdom and other overseas countries, and by a rise in Canada's official reserves of gold and foreign exchange.

Considering the great economic development that has taken place in Canada since 1948 the actual burden of the rising balance of indebtedness is likely to be very much less than it was during the earlier development periods.

Foreign Investments in Canada.—Foreign investments in Canada reached a new peak by the end of 1955, rising to well over \$13,000,000,000 from \$12,469,000,000 at the end of 1954. Almost half of the outside capital invested in Canada during the present century has come in since the end of World War II, the greater part of it after 1948. In absolute terms this postwar investment is much heavier than that during the earlier growth periods even though Canada is much less dependent upon foreign capital than it was then.

United States investments, which reached \$9,622,000,000 at the end of 1954, have accounted for the greater part of the increase since 1948 and in 1954 constituted more than three-quarters of the total non-resident capital invested in Canada. Recent growth of investments owned in the United Kingdom and western Europe has also been of significant proportions: British investments in 1954 reached a new postwar peak at \$2,143,000,000 and investments by other overseas countries amounted to \$704,000,000. However because of the sharp decline in British investments during and immediately following World War II, investments by British and overseas countries in 1954 were just about at their 1926 level, whereas United States investments were three times as large as they were in 1926.

A striking feature of the recent growth in foreign investment has been the extent to which it has been concentrated in Canadian business. More than 90 p.c. of all the postwar non-resident capital invested in Canada—British, other overseas and United States investment—has been placed in Canadian business, more than 50 p.c. of it in manufacturing, over 25 p.c. in mining, smelting and petroleum exploration and development, and most of the remainder in merchandising, financial institutions and utilities. While each of the main groups of manufacturing industries has received a share, concentration has been most marked in the pulp and paper, metal products, and chemical industries and in establishments engaged in petroleum refining.

Another noteworthy feature in the investment picture is the increase in the proportion of direct investments controlled outside of Canada; such investments more than doubled in value from 1948 to 1954 through transfers of capital and retained earnings. In the manufacturing and mining industries non-resident investments constituted more than half of the total investments in these industries from 1948 to 1954. In the petroleum industry alone, which cuts across these two branches, non-resident investment made up about two-thirds of the total. Statistical studies of resident and non-resident shares of ownership have revealed also that, after omitting the predominant non-resident contribution to capital invested in the petroleum industry, non-residents have also contributed about 50 p.c. of the increased investment in other manufacturing industries and more than two-thirds of the increase in other mining industries. However these high ratios contributed by non-residents are not typical of other spheres of Canadian business. For

example non-resident ownership represented less than 10 p.c. of the rise of investments in the same period in the railway, other utility and merchandising sectors and an even smaller proportion in the areas of investment where the savings of Canadian individuals and governments are leading sources of financing.

As a result of these divergent trends in recent financing non-resident ownership of Canadian manufacturing and mining constitutes higher ratios than ever before. By 1953 non-resident ownership of Canadian manufacturing industries had risen to 47 p.c. from 42 p.c. in 1948 and 38 p.c. in 1926, and non-resident ownership in the sphere of mining, smelting and petroleum exploration and development had risen to 56 p.c. from 39 p.c. and 36 p.c. in 1948 and 1926 respectively. But the opposite trend in the ownership of railways and other utilities and low percentages in merchandising have generally offset the rising trend in manufacturing and mining. In merchandising non-resident ownership continued to be about 32 p.c. in 1953 as in 1948 and compares with a slightly higher percentage in 1926.

The changes have of course been greatest in investments owned in the United States, for which the proportion has increased to 25 p.c. in 1953 from 23 p.c. in 1948 and 19 p.c. in 1926. In the petroleum industry alone United States ownership amounted to 56 p.c. of the total capital employed in 1953 and in other mining industries to about 50 p.c. In manufacturing, other than petroleum refining, the United States ownership in 1953 was about 35 p.c. while the United Kingdom and other overseas countries owned 9 p.c.

When investments are classified according to country of control, the ratios indicated as invested in companies controlled outside of Canada are higher than the ratios of ownership in the area of manufacturing and mining and have risen to a greater extent throughout the period from 1926. In 1953 approximately 50 p.c. of the capital invested in Canadian manufacturing was in companies controlled outside of Canada compared with 43 p.c. in 1948 and 35 p.c. in 1926. In mining, smelting and petroleum exploration and development the corresponding ratios were 57 p.c., 40 p.c. and 38 p.c. In the petroleum industry alone in all its establishments, non-resident control amounted to about 70 p.c. in 1953. On the other hand the proportion of non-resident control of public utilities was comparatively minor and was less than in 1926. In the broad area of Canadian business covered by industry, railways, utilities and merchandising, the ratio of non-resident control was approximately 28 p.c. compared with 25 p.c. in 1948 and 17 p.c. in 1926.

Great variations exist in both ownership and control of the different branches of industry. In such industries as textiles and primary iron and steel, Canadian ownership is 80 p.c. or more and the proportion of Canadian control is even higher. The opposite situation prevails in such industries as automobiles and parts, and rubber products where the greater proportion is controlled abroad. These illustrations however tend to be extreme. Other industries are more evenly divided: 63 p.c. of the agricultural implements industry is owned in Canada, 48 p.c. of the pulp and paper industry, 39 p.c. of the chemical industry and 35 p.c. of the electrical apparatus industry.

Some additional light on the place of foreign-controlled businesses in Canadian industry is provided by a special study of production and employment in the larger Canadian manufacturing establishments controlled in the United States. Such establishments, having an investment of \$1,000,000 or more, accounted for about 30 p.c. of Canadian manufacturing production in 1953 and 21 p.c. of employment in that field. These ratios were considerably higher than those for 1946, when a similar study was made; for that year the corresponding ratios were 22 p.c. and 16 p.c., respectively. In many industries the proportions were of course much higher. Among those in which well over half of the Canadian production was accounted for by United States controlled firms were the smelting and refining of non-ferrous metals, petroleum refining, automobile parts, rubber products and machinery. The concentration of foreign-controlled production is in Ontario where about 40 p.c. of the value of manufacturing output came from the larger United States controlled plants.

9.—Estimate of the Canadian Balance of International Indebtedness as at Dec. 31, 1939-54

NOTE.—Totals are rounded and may not represent the sum of their components. They are exclusive of short term commercial indebtedness and blocked currencies.

(Billions of dollars)

Item	1939	1945	1949	1950	1951	1952 ¹	1953 ¹	1954
Canadian Liabilities (Foreign Capital Invested in Canada)—								
Direct investments.....	2.3	2.7	3.6	4.0	4.5	5.2	5.0	6.7
Government and municipal bonds.....	1.7	1.7	1.8	2.0	2.1	2.0	2.1	2.1
Other portfolio investments.....	2.6	2.4	2.3	2.4	2.5	2.7	2.9	3.1
Miscellaneous investments.....	0.3	0.3	0.3	0.3	0.4	0.4 ¹	0.5	0.6
Totals, Non-resident Long Term Investment in Canada.....	6.9	7.1	8.0	8.7	9.5	10.4	11.5	12.5
Equity of non-residents in Canadian assets abroad.....	0.2	0.2	0.3	0.3	0.4	0.4	0.6	0.6
Canadian dollar holdings of non-residents	0.3	0.3	0.4	0.6	0.4	0.3	0.3	0.3
Canadian short term assets of IMF and IBRD.....	—	—	0.3	0.3	0.3	0.3	0.3	0.2
Gross Liabilities.....	7.4	7.6	8.9	9.9	10.6	11.4	12.6	13.6
United States.....	4.5	5.4	6.4	7.1	7.9	8.5	9.5	10.3
United Kingdom.....	2.6	1.8	1.8	2.0	1.9	2.0	2.2	2.3
Other countries, IMF and IBRD.....	0.3	0.4	0.7	0.8	0.8	0.9	1.0	1.0
Canadian Assets (Canadian Capital Invested Abroad)—								
Direct investments.....	0.7	0.7	0.9	1.0	1.2	1.3	1.5	1.6
Portfolio investments.....	0.7	0.6	0.6	0.6	0.6	0.8 ¹	0.9	0.9
Government of Canada loans and advances.....	—	0.7	2.0	2.0	1.9	1.9	1.8	1.7
Government of Canada subscriptions to IMF and IBRD.....	—	—	0.4	0.4	0.4	0.4	0.4	0.4
Totals, Canadian Long Term Investments Abroad.....	1.4	2.0	4.0	4.0	4.1	4.4	4.5	4.6
Government of Canada holdings of gold and foreign exchange.....	0.5	1.7	1.2	1.9	1.8	1.8	1.8	1.9
Other Canadian short term assets abroad	—	0.1	0.1	0.1	0.1	0.3	0.3	0.4
Gross Assets.....	1.9	3.8	5.2	5.9	6.0	6.4	6.6	6.9
Government of Canada holdings of gold and foreign exchange.....	0.5	1.7	1.2	1.9	1.8	1.8	1.8	1.9
United States ²	0.9	0.9	1.1	1.1	1.4	1.7	2.0	2.2
United Kingdom ²	0.1	0.7	1.6	1.6	1.5	1.5	1.5	1.5
Other countries, IMF and IBRD.....	0.4	0.5	1.3	1.3	1.3	1.4	1.4	1.4
Canadian Net International Indebtedness—Net Liabilities.....	5.5	3.9	3.7	4.0	4.6	5.0	6.0	6.7
Government of Canada holdings of gold and foreign exchange.....	-0.5	-1.7	-1.2	-1.9	-1.8	-1.8	-1.8	-1.9
United States ²	3.6	4.6	5.3	6.0	6.5	6.8	7.5	8.1
United Kingdom ²	2.5	1.1	0.2	0.4	0.4	0.5	0.7	0.8
Other countries, IMF and IBRD.....	-0.1	-0.1	-0.6	-0.5	-0.5	-0.5	-0.4	-0.4

¹ New series.

² Exclusive of Government of Canada holdings of gold and foreign exchange.

10.—Foreign Capital Invested in Canada by Type of Investment as at Dec. 31, 1939-54

(Millions of dollars)

Type of Investment	1939	1946	1950	1951 ¹	1952 ²	1953 ²	1954
Government Securities—							
Federal.....	823	750	1,141	1,013	858	744	659
Provincial.....	536	594	565	771	816	930	964
Municipal.....	344	267	256	319	354	413	433
Totals, Government Securities...	1,703	1,611	1,962	2,103	2,028	2,087	2,056
Public Utilities—							
Railways.....	1,871	1,583	1,446	1,436	1,429	1,420	1,418
Other.....	549	557	547	575	639	680	726
Totals, Public Utilities.....	2,420	2,140	1,993	2,011	2,068	2,100	2,144
Manufacturing.....	1,445	1,895	2,754	3,114	3,537	3,925	4,260
Mining and smelting.....	329	386	631	815	1,076	1,422	1,656
Merchandising.....	189	238	330	388	447	530	577
Financial institutions.....	473	557	573	595	648	776	1,066
Other enterprises.....	69	69	98	120	133	151	149
Miscellaneous assets.....	285	282	320	328	447 ¹	467	561
Totals, Investment.....	6,913	7,178	8,661	9,474	10,384	11,458	12,469
United States ²	4,151	5,157	6,548	7,258	7,998	8,868	9,622
United Kingdom ²	2,476	1,668	1,776	1,776	1,884	2,007	2,143
Other countries.....	286	353	365	440	502	583	704

¹ New series.² Includes some investments held for residents of other countries.

11.—Foreign Capital Invested in Canada by Type of Investment classified by Estimated Distribution of Ownership as at Dec. 31, 1954

NOTE.—Common and preferred stocks are at book values as shown in the balance sheets of the issuing companies; bonds and debentures are valued at par; and liabilities in foreign currencies are converted into Canadian dollars at par of exchange.

Type of Investment	Estimated Distribution of Ownership			Total Investments of Non-residents
	United States ¹	United Kingdom ¹	Other Countries	
	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Government Securities—				
Federal.....	515	71	73	659
Provincial.....	914	38	12	964
Municipal.....	393	35	5	433
Totals, Government Securities.....	1,822	144	90	2,056
Public Utilities—				
Railways.....	624	692	102	1,418
Other.....	625	65	36	726
Totals, Public Utilities.....	1,249	757	138	2,144
Manufacturing.....	3,489	657	114	4,260
Mining and smelting.....	1,522	75	59	1,656
Merchandising.....	418	136	23	577
Financial institutions.....	696	217	153	1,066
Other enterprises.....	124	20	5	149
Miscellaneous assets.....	302	137	122	561
Totals, Investments.....	9,622	2,143	704	12,469

¹ Includes some investments held for residents of other countries.

Canadian Assets Abroad.—Canada's external assets have changed greatly in size and composition in recent years. The total value, including holdings of gold and foreign currencies, rose from about \$1,900,000,000 in 1939 to \$6,900,000,000 at the end of 1954. The principal factor in this increase was the extension by the Federal Government of loans and export credits to the United Kingdom and other countries. At the end of 1954 Canadian Government credits outstanding totalled approximately \$1,705,000,000 and by the end of 1955 about \$1,635,000,000. The latter total includes \$90,000,000 outstanding on the 1942 loan to the United Kingdom, \$1,112,000,000 on the 1946 loan to the United Kingdom and about \$400,000,000 of postwar export credits and advances. In addition at the end of 1954 official holdings of gold and foreign exchange aggregated about \$1,888,000,000. Other official Canadian assets include Canada's subscriptions to the capital of the International Bank and the International Monetary Fund, which by March 1955 amounted to \$70,900,000 and \$293,400,000 respectively. A small part of the subscription to the Bank was in the form of convertible exchange and \$75,000,000 of the subscription to the Fund was in gold. The remainder of both subscriptions was made in the form of demand notes of the Federal Government or in Canadian funds.

Besides the officially owned assets referred to above, there were privately owned investments in the form of foreign securities and property owned by Canadian companies and individuals. In 1939 these privately owned assets constituted most of the total value of Canadian assets abroad, whereas since the end of World War II they have made up only a minor part of the total, chiefly because of the sharp rise in officially owned assets. Canadian assets abroad at the end of 1954 included privately owned longterm direct and portfolio investments valued at \$2,570,000,000. These have risen from \$1,300,000,000 at the end of 1945, a rate of increase somewhat higher than for foreign private longterm investment in Canada.

About two-thirds of Canada's direct investments abroad are in the United States. These investments, on a per capita basis, are about twice the value of United States direct investments in Canada and are mainly in the beverage, farm implement and petroleum industries and in railways, though a wide range of other establishments is also involved. Investment in other parts of the world is widely distributed and is to be found particularly in industrial and commercial firms, mining and utilities. About two-thirds of the portfolio holdings abroad are also in the form of United States securities but Canada has extensive portfolio investments in other parts of the world, particularly Latin America.

12.—Canadian Assets Abroad 1939-54

(Millions of dollars)

NOTE.—Excludes investments of insurance companies and banks, Canada's subscriptions to international financial institutions and short term assets, other than official holdings of gold and foreign exchange. Holdings of stocks are at book values as shown in the books of issuing companies; holdings of bonds are shown at par values. Foreign currencies are converted into Canadian dollars at current market rates. The series for portfolio investment was reconstructed in 1952 and is not strictly comparable with preceding years.

Assets	1939	1948	1951*	1952*	1953*	1954
Direct investments in businesses outside Canada	671	788	1,166	1,271	1,505	1,644
Portfolio holdings of foreign securities.....	719	605	609	830	869	926
Government credits.....	31	1,878	1,922	1,866	1,778	1,705
Official balances abroad and gold.....	459	1,006	1,846	1,809	1,779	1,888
Totals.....	1,880	4,277	5,543	5,776	5,931	6,163

13.—Canadian Assets Abroad by Location of Investment as at Dec. 31, 1954

NOTE.—See headnote to Table 12.

Location of Investment	Direct Invest- ments	Portfolio Investment		Govern- ment Credits	Official Holdings of Exchange	Total Invest- ments
		Stocks	Bonds	Bonds	Total	
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
United States.....	1,256	490	89	—	840	2,675
United Kingdom.....	119	17	14	1,247	12	1,409
Other Commonwealth countries.....	138	6	7	—	—	151
Other foreign countries.....	131	210	93	458	—	892
Official gold holdings.....	—	—	—	—	1,036	1,036
Totals.....	1,644	723	203	1,705	1,888	6,163

Section 3.—Corporation Profits and Income to Shareholders

Data on corporation profits, taxes and dividends presented in Table 14 cover all corporations and are for calendar years. The data have been adjusted in order to conform to national accounts concepts. For the years 1944 to 1954 these figures are based on the Department of National Revenue annual report *Taxation Statistics*. Prior to 1944 corporate financial statistics are based on a study conducted in the Department of National Revenue.

From a peak of \$530,000,000 in 1929 corporation profits before taxes declined during the depression to a low of \$17,000,000 in 1932 and then rose gradually to a wartime high of \$1,292,000,000 in 1942. During the postwar period corporation profits gained steadily and reached an alltime record of \$2,810,000,000 in 1951; thereafter they showed small annual declines and were down by 14 p.c. from the 1951 peak to a figure of \$2,420,000,000 in 1954.

In 1954 corporation taxes took about 48 p.c. of total corporation profits before payment of dividends; yet, although corporation profits declined between 1953 and 1954, dividend payments to shareholders showed a gain of about 5 p.c.

14.—Profits, Taxes and Dividends of Canadian Corporations 1929-54

(Millions of dollars)

Item	1929	1932	1939	1942	1944	1946	1949	1951	1952 ¹	1953 ¹	1954
Corporation profits before taxes ¹	530	17	689	1,292	1,221	1,455	1,906	2,810	2,670	2,580	2,420
Deduct: income and excess profits taxes ²	48	32	115	629	598	654	731	1,429	1,378	1,226	1,164
Corporation profits after taxes.....	482	—15	574	663	623	801	1,175	1,381	1,292	1,354	1,256
Deduct: dividends paid and charitable donations.....	271	157	302	308	282	390	568	660	625	606	639
Undistributed corporation profits.....	211	—172	272	355	341	411	607	721	667	748	617

¹ Include depletion charges and charitable donations, and are adjusted for corporate losses, renegotiation of war contracts and conversion to a calendar-year basis. ² Includes elective tax on undistributed income of \$48,000,000 in 1951, \$10,000,000 in 1952, \$10,000,000 in 1953, and \$7,000,000 in 1954.

According to the corporation profits survey, results of which are given in Table 15, profits before taxes declined from \$2,580,000,000 in 1953 to \$2,390,000,000 in 1954, a decrease of 7.4 p.c. Five of the 18 industrial groups included showed increases and 13 recorded decreases. The greatest decrease occurred in the iron and steel industry. Profits after taxes followed approximately the same trend, with a decline of 9.2 p.c.

15.—Corporation Profits by Industry, before and after Income Taxes 1952-54

(Millions of dollars)

NOTE.—The figures in this table are for all corporations and are adjusted to calendar-year and to National Accounts concepts.

Industry	Net Income before Income Taxes			Net Income after Income Taxes		
	1952	1953	1954	1952	1953	1954
Mining, quarrying and oil wells.....	244	199	231	145	124	141
Food and beverages.....	177	181	169	81	78	83
Textile products.....	37	31	23	13	12	6
Wood and paper products.....	320	324	331	152	172	174
Iron and steel products.....	402	344	266	185	180	117
Non-ferrous metal products.....	66	62	51	30	32	26
Electrical apparatus and supplies.....	75	85	58	36	44	28
Non-metallic mineral products.....	62	71	66	29	37	35
Products of petroleum and coal.....	102	111	115	49	57	59
Chemical products.....	95	87	84	46	49	45
Other manufacturing industries ¹	74	79	65	34	42	35
Transportation, storage and communications.....	204	197	187	101	104	100
Public utility operation.....	52	55	62	25	29	33
Wholesale trade.....	236	192	161	112	102	79
Retail trade.....	184	174	142	93	96	69
Finance, insurance and real estate.....	212	240	262	102	127	135
Service.....	55	52	45	27	30	25
Other non-manufacturing ²	73	86	72	32	39	40
Total Profits, All Corporations.....	2,670	2,580	2,390	1,292	1,354	1,230
Adjustments to National Accounts Estimates ³	—	—	+30	—	—	+26
Total Profits, National Accounts Estimates.....	2,670	2,580	2,420	1,292	1,354	1,256

¹ Includes tobacco, rubber, leather and miscellaneous manufacturing industries. ² Includes agriculture, forestry, fishing and construction. ³ Revisions made to the estimates in the corporation profits survey which have not yet been carried forward in the National Accounts. See Table 14.

Section 4.—Federal Incorporation of Companies

During the year ended Mar. 31, 1954 letters patent were granted incorporating 840 companies under Part I and 36 corporations without share capital under Part II of the Companies Act. Supplementary letters patent were granted to 409 existing companies and to eight existing corporations without share capital; seven certificates were issued to existing companies increasing the amount of the consideration to be received for the issuance of shares without nominal or par value. Under Part IV of the Act one licence was issued to a mining company to carry on mining operations.

Compilation of the capitalization of the companies incorporated under the Companies Act is no longer available. Figures for 1943-52 are given at p. 1123 of the 1954 Year Book and those for 1900-1942 in previous issues.

CHAPTER XXVI.—CURRENCY AND BANKING; MISCELLANEOUS COMMERCIAL FINANCE

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

PART I.—CURRENCY AND BANKING*

A historical sketch of currency and banking in Canada appears in the 1938 Year Book, pp. 900-905.

Section 1.—The Bank of Canada

The Bank of Canada was incorporated under the Bank of Canada Act 1934 and commenced operations on Mar. 11, 1935.

The Bank of Canada is Canada's central bank and as such its main function is to regulate the total volume of money and credit. The normal way in which this function is performed is through changes in the cash reserves of the chartered banks. Each chartered bank is required by the Bank Act to maintain, on the average during each calendar month, an amount of cash reserves, in the form of Bank of Canada notes and deposits with the Bank of Canada, equal to not less than 8 p.c. of its Canadian dollar deposit liabilities. (Prior to July 1, 1954, each chartered bank was required to maintain at all times, cash reserves equal to not less than 5 p.c. of its Canadian dollar deposit liabilities; in practice the chartered banks normally attempted to maintain a ratio of about 10 p.c.) An increase in cash reserves encourages banks to expand their assets (mainly by purchasing securities and making loans), with a resultant similar increase in their deposit liabilities; a decrease in cash reserves tends to discourage expansion and may result in some contraction. Therefore, by taking steps to alter the volume of cash reserves available to the chartered banks, the Bank of Canada is able to influence the total of chartered bank assets and the total of their Canadian dollar deposit liabilities. The deposit liabilities of the banks, except for those payable to the Government, are of course assets of the general public and, together with currency, comprise their most liquid assets. (See pp. 1107-1108 for discussion of general public holdings of liquid assets.)

* Except where otherwise indicated, this material has been revised by the Research Division of the Bank of Canada.

Open market operations in Government of Canada securities constitute the chief means by which the Bank of Canada influences the volume of chartered banks' reserves. When the Bank of Canada purchases a security it issues a cheque in settlement which, after it is cashed at, or deposited with, a chartered bank by the recipient, is in turn deposited by that chartered bank in its account with the Bank of Canada, thereby increasing its cash reserves. Conversely when the Bank of Canada sells a security the cheque which it receives in payment is charged against the account of the chartered bank on which it is drawn thus decreasing that bank's cash reserves. Increases or decreases in other assets and liabilities of the Bank of Canada also have an effect on the chartered banks' cash reserves. For example an increase in the amount of Bank of Canada notes held by the general public tends to reduce the banks' cash reserves.

The powers of the Bank are set forth in the Bank of Canada Act 1934 (R.S.C. 1952, c. 13), revisions to which were made in 1936, 1938 and 1954. Some of these powers are outlined below.

The Bank of Canada may vary the minimum cash reserve requirements of the chartered banks between 8 p.c. and 12 p.c. of their Canadian dollar deposit liabilities, provided that the chartered banks are given a minimum notice period of one month before each increase becomes effective and that any increase is not more than 1 p.c. during any one month. When this legislation became effective on June 1, 1954 the initial requirement was 8 p.c. and it has since remained at that level.

The Bank may make loans or advances for periods not exceeding six months to chartered banks, or to banks to which the Quebec Savings Bank Act applies, on the pledge or hypothecation of certain classes of securities. Loans or advances on the pledge or hypothecation of readily marketable securities issued or guaranteed by Canada or any province may be made to the Government of Canada or the government of any province for periods not exceeding six months. Other loans may be made to the Government of Canada or the government of any province in amounts not exceeding a fixed proportion of such government's revenue; such loans must be repaid before the end of the first quarter after the end of the fiscal year of the borrower.

The Bank of Canada is required to make public at all times the minimum rate at which it is prepared to make loans or advances.

This rate, known as the Bank Rate, stood at 2 p.c. per annum from Oct. 17, 1950 to Feb. 14, 1955 when it was reduced to 1½ p.c. At that time the Bank issued a statement noting in part that "In the past, Bank Rate has been changed infrequently in Canada and little use has been made of the Bank's facilities. The growth in the breadth and scale of activity in the short term money market over the past two years has made it desirable that the Bank Rate be made flexible and bear a closer (though not fixed) relation to other short term interest rates. The present adjustment will help to make Bank Rate a more significant factor in the money market and facilitate its more flexible use in the future as circumstances may require. While the structure of short term interest rates, including Bank Rate, provides an index of monetary conditions, it does not follow that every change in Bank Rate or in the level of other short rates necessarily indicates a change in general economic conditions." The Bank Rate was raised to 2 p.c. on Aug. 5, 1955, to 2½ p.c. on Oct. 12, 1955 and to 2¾ p.c. on Nov. 18, 1955. The rate was increased to 3 p.c. on Apr. 4, 1956 and to 3¼ p.c. on Aug. 10, 1956.

The Bank has the sole right to issue paper money for circulation in Canada. Details regarding the note issue are given on pp. 1105-1106.

The Bank acts as the fiscal agent for the Government of Canada in the payment of interest and principal and generally in respect of the management of the public debt of Canada.

The Bank may buy and sell securities issued or guaranteed by Canada or any province, short term securities issued by the United Kingdom, treasury bills or other obligations of the United States, and certain classes of short term commercial paper. The Bank is

authorized by the Industrial Development Bank Act to purchase bonds and debentures issued by the Industrial Development Bank. The Bank may buy and sell gold, silver, nickel and bronze coin, and gold and silver bullion, and may also deal in foreign exchange. The Bank may accept deposits that do not bear interest from the Government of Canada, the government of any province, any chartered bank or any bank to which the Quebec Savings Bank Act applies. The Bank does not accept deposits from individuals and does not compete with the chartered banks in commercial banking fields.

Sect. 23 of the Bank of Canada Act provides that the Bank shall maintain a reserve of gold equal to not less than 25 p.c. of its outstanding notes and deposit liabilities. This requirement was suspended in 1940 when, under the terms of the Exchange Fund Order, the Bank's gold holdings were transferred to the Exchange Fund Account to form part of Canada's official gold and United States dollar reserves. The requirement is still in suspension. The Currency, Mint and Exchange Fund Act passed in 1952 provides that, notwithstanding Sect. 23 of the Bank of Canada Act, the Bank of Canada is not required to maintain a minimum or fixed ratio of gold or foreign exchange to its liabilities unless the Governor in Council otherwise prescribes.

The Bank is under the management of a Board of Directors composed of a Governor, a Deputy Governor and twelve directors. The Governor and Deputy Governor are appointed for terms of seven years each by the Directors, with the approval of the Governor General in Council. The Directors are appointed by the Minister of Finance, with the approval of the Governor General in Council, for terms of three years each. The Deputy Minister of Finance is a member of the Board but does not have the right to vote. There is an Executive Committee of the Board composed of the Governor, the Deputy Governor, one director and the Deputy Minister of Finance (who is without a vote) which has the same powers as the Board except that its every decision must be submitted to the Board at its next meeting.

In addition to the Deputy Governor who is a member of the Board, there may be one or more Deputy Governors who are appointed by the Board of Directors to perform such duties as are assigned to them by the Board.

The Governor is the chief executive officer of the Bank and Chairman of the Board of Directors. The Governor has the power to veto any action or decision of the Board of Directors or of the Executive Committee but such a veto is subject to confirmation or disallowance by the Governor General in Council. In the absence of the Governor, the Deputy Governor, who is a member of the Board, exercises all the powers and functions of the Governor.

The capital of the Bank is \$5,000,000 and is entirely held by the Minister of Finance. The Bank of Canada Act as amended in 1954 provides that each year 20 p.c. of the Bank's annual profits (after provision for depreciation in assets, pension funds and such matters) shall be allocated to the Rest Fund until the Rest Fund reaches an amount five times the paid-up capital of the Bank and the remainder shall be paid to the Receiver General and placed to the credit of the Consolidated Revenue Fund. At the end of 1955 the Rest Fund of the Bank reached its maximum of \$25,000,000 so that in future the whole of the Bank's profits will be paid to the Receiver General.

The head office of the Bank is at Ottawa. It has agencies at Halifax, Saint John, Montreal, Ottawa, Toronto, Winnipeg, Regina, Calgary and Vancouver and is represented in St. John's and Charlottetown. The agencies are chiefly concerned with the functions of the Bank as fiscal agent for the Government of Canada and with the issue and redemption of currency. The Industrial Development Bank, which is described on pp. 1103-1104, is a subsidiary of the Bank of Canada.

The Bank of Canada Act requires that statements of the assets and liabilities of the Bank on each Wednesday and the last day of each month be published in the *Canada Gazette*. A summary of the statement as at Dec. 31, 1953-55 appears in Table 1.

1.—Assets and Liabilities of the Bank of Canada as at Dec. 31, 1953-55

Assets and Liabilities	1953	1954	1955
	\$'000,000	\$'000,000	\$'000,000
Assets			
Foreign exchange.....	55.1	54.3	57.6
Advances to chartered and savings banks.....	—	—	2.0
Investments—			
Treasury Bills of Canada.....	374.5	168.5	262.6
Other securities issued or guaranteed by Canada maturing within 2 years.....	1,002.1	1,193.0	1,021.2
Other securities issued or guaranteed by Canada not maturing within 2 years.....	893.7	860.6	1,083.7
Bonds and debentures issued by Industrial Development Bank....	11.3	10.6	10.1
Other securities.....	12.1	12.0	57.1
Industrial Development Bank capital stock.....	25.0	25.0	25.0
Bank premises.....	4.8	4.9	4.9
All other assets.....	58.7	72.0	96.1
Totals, Assets	2,437.2	2,400.8	2,620.2
Liabilities			
Capital paid up.....	5.0	5.0	5.0
Rest Fund.....	10.1	10.1	20.4
Notes in Circulation—			
Held by chartered banks.....	263.8	261.6	289.4
All other.....	1,335.3	1,361.9	1,449.0
Deposits—			
Government of Canada.....	51.5 ¹	56.3 ¹	89.2 ¹
Chartered banks.....	623.9	529.6	551.0
Other.....	29.5	30.5	34.0
Foreign currency liabilities.....	63.8	63.1	98.0
All other liabilities.....	54.2 ¹	82.8	84.1
Totals, Liabilities	2,437.2	2,400.8	2,620.2

¹ Before the transfer of Bank of Canada profits for the year ended Dec. 31 from "All other liabilities" to "Government of Canada deposits" and "Rest Fund".

The Industrial Development Bank.—The Industrial Development Bank, a subsidiary of the Bank of Canada, was incorporated by Act of Parliament during 1944 and its banking operations commenced on Nov. 1, 1944. Its functions are described in the preamble to the Act as follows:—

"To promote the economic welfare of Canada by increasing the effectiveness of monetary action through ensuring the availability of credit to industrial enterprises which may reasonably be expected to prove successful if a high level of national income and employment is maintained, by supplementing the activities of other lenders and by providing capital assistance to industry with particular consideration to the financing problems of small enterprises."

The President of the Industrial Development Bank is the Governor of the Bank of Canada and the Directors are the Directors of the Bank of Canada. The \$25,000,000 capital stock of the Bank (completely paid up) was subscribed by the Bank of Canada. The Industrial Development Bank may also raise funds by the issue of bonds and debentures provided that its total direct liabilities and contingent liabilities in the form of guarantees and underwriting agreements do not exceed three times the aggregate of the Bank's paid-up capital and Reserve Fund.

The lending powers of the Bank may be extended only to industrial enterprises in Canada with respect to which it is empowered to:—

- (1) lend money or guarantee loans;
- (2) enter into underwriting agreements with regard to any issue of stock, bonds or debentures;
- (3) acquire stock, bonds or debentures from the issuing corporation or any person with whom the Bank has entered into an underwriting agreement.

Industrial enterprises, as defined by the Act (amended in 1956) include: (1) manufacturing, processing, assembling, installing, overhauling, reconditioning, altering, repairing, cleaning, packaging, transporting or warehousing of goods; (2) logging, operating a mine or quarry, drilling, construction, engineering, technical surveys or scientific research; (3) generating or distributing electricity or operating a commercial air service, or the transportation of persons, or (4) supplying premises, machinery or equipment for any business mentioned in (1), (2) or (3) under a lease, contract or other arrangement whereby title to the premises, machinery or equipment is retained by the supplier.

The Bank may accept any form of collateral security against its advances, including real property.

The Industrial Development Bank is intended to supplement the activities of other lending agencies, not to compete with them, and the Act of incorporation requires that it should extend credit only when the Board of Directors is of the opinion that similar credit would not be available elsewhere on reasonable terms and conditions. The Bank is specifically prohibited from engaging in the business of deposit banking.

2.—Authorized and Outstanding Loans and Investments of the Industrial Development Bank by Province and Industry as at Sept. 30, 1955

Province	Authorized	Outstanding	Industry	Authorized	Outstanding
	\$	\$		\$	\$
Newfoundland.....	145,000	106,000	Food and beverages.....	5,834,187	3,069,993
Prince Edward Island.....	51,000	32,262	Rubber products.....	185,000	112,600
Nova Scotia.....	567,899	210,694	Leather products.....	284,930	138,630
New Brunswick.....	1,149,575	652,833	Textile products (except		
Quebec.....	26,408,327	16,957,957	clothing).....	4,596,772	2,861,223
Ontario.....	19,641,971	14,705,096	Clothing (textiles and fur)....	2,270,669	1,146,435
Manitoba.....	2,492,055	1,480,289	Wood products.....	9,200,639	6,096,156
Saskatchewan.....	829,603	365,347	Paper products (including		
Alberta.....	4,043,200	2,823,617	pulp).....	4,265,000	3,787,650
British Columbia.....	11,685,494	7,992,834	Printing, publishing and		
Yukon and Northwest Ter-			allied industries.....	1,401,500	1,029,642
ritories.....	261,000	46,800	Iron and steel products (in-		
Canada.....	67,275,134	45,370,729	cluding machinery and		
			equipment).....	8,681,635	5,831,547
			Transportation equipment.....	2,592,000	1,283,823
			Non-ferrous metal products...	1,107,000	762,573
			Electrical apparatus and sup-		
			plies.....	3,265,263	2,429,446
			Non-metallic mineral prod-		
			ucts.....	6,287,372	4,592,430
			Products of petroleum and		
			coal.....	956,000	230,932
			Chemical products.....	6,895,000	5,547,531
			Miscellaneous manufacturing		
			industries.....	1,877,000	876,938
			Refrigeration.....	4,526,017	3,229,647
			Generating or distributing of		
			electricity.....	135,000	33,250
			Commercial air services.....	2,914,150	2,313,283
Totals.....	67,275,134	694	Totals.....	67,275,134	45,370,729

¹ Because of partial repayments on account of current authorizations the net authorizations were \$52,563,399 of which those in excess of \$200,000 totalled \$26,144,910.

Section 2.—Currency

Subsection 1.—Notes and Coinage

Note Circulation.—The development by which bank notes became the chief circulating medium in Canada prior to 1935 is described in the 1938 Year Book, pp. 900-905. Those features of the development which then became permanent are outlined in the 1941 Year Book, pp. 809-810.

When the Bank of Canada commenced operations in 1935 it assumed liability for Dominion notes outstanding. These were replaced in public circulation and partly replaced in cash reserves by the Bank's legal tender notes in denominations of \$1, \$2, \$5, \$10, \$20, \$50 and \$100. Deposits of chartered banks at the Bank of Canada completed the replacement of the old Dominion notes of \$1,000 to \$50,000 denomination that had previously been used as cash reserves.

The chartered banks were required under the Bank Act of 1934 to reduce gradually the issue of their own bank notes during the years 1935-45 to an amount not in excess of 25 p.c. of their paid-up capital on Mar. 11, 1935. Bank of Canada notes thus replaced chartered bank notes as the issue of the latter was reduced. Further restrictions introduced by the 1944 revisions of the Bank Act cancelled the right of chartered banks to issue or re-issue notes after Jan. 1, 1945 and in January 1950 the chartered banks' liability for such of their notes issued for circulation in Canada as then remained outstanding was transferred to the Bank of Canada in return for payment of a like sum to the Bank of Canada.

The classification of Bank of Canada notes in circulation by denomination shown in Table 3 for 1952-55 is not strictly comparable with the classification for earlier years. Dominion notes have been excluded from the denomination classification and the total only is shown. Also an item has been added showing the outstanding chartered bank notes issued originally for circulation in Canada. The statistics of total notes in the hands of the general public are comparable with earlier years.

3.—Bank of Canada Notes by Denomination and Other Notes in Circulation as at Dec. 31, 1952-55

Denomination	1952	1953	1954	1955
	\$	\$	\$	\$
Bank of Canada Notes—				
\$1.....	56,585,226	59,177,372	62,160,634	65,490,666
\$2.....	41,820,803	42,795,783	44,679,550	47,372,696
\$5.....	120,268,760	120,688,495	122,423,538	130,931,243
\$10.....	475,289,040	475,247,695	469,294,860	499,587,455
\$20.....	430,812,670	446,293,020	453,120,810	493,654,730
\$25.....	46,525	46,425	46,425	46,350
\$50.....	123,290,025	125,318,100	123,729,475	127,747,300
\$100.....	287,874,900	304,696,950	323,084,450	347,255,500
\$500.....	105,500	76,500	68,500	63,000
\$1,000.....	9,618,000	9,805,000	10,353,000	12,201,000
Totals.....	1,545,711,449	1,584,145,340	1,608,961,241	1,724,349,939
Provincial notes.....	27,568	27,568	27,568	27,568
Dominion notes.....	4,670,385	4,665,188	4,660,752	4,654,858
Defunct bank notes.....	88,362	88,463	88,232	88,181
Chartered bank notes.....	10,695,297	10,198,230	9,719,115	9,370,277
Grand Totals.....	1,561,193,061	1,599,124,789	1,623,456,907	1,738,499,823

4.—Note Circulation in the Hands of the Public as at Dec. 31, 1946-55

NOTE.—Newfoundland has long used Canadian bank notes so that when that Province united with Canada in 1949 no adjustment was necessary in the circulation figures, but the effect of including the population of Newfoundland from 1949 was to reduce the per capita note circulation by an estimated \$1.

Year	Bank of Canada Notes ¹	Chartered Bank Notes ²	Total	Per Capita ³
	\$	\$	\$	\$
1946.....	1,009,340,325	21,422,006	1,030,762,331	83.86
1947.....	1,027,439,799	18,202,477	1,045,642,276	83.31
1948.....	1,098,290,534	16,246,036	1,114,536,570	86.92
1949.....	1,095,652,035	13,990,117	1,109,642,152	82.52
1950.....	1,136,115,742	4	1,136,115,742	82.86
1951.....	1,191,091,182	4	1,191,091,182	85.02
1952.....	1,288,688,392	4	1,288,688,392	89.31
1953.....	1,335,332,954	4	1,335,332,954	90.34
1954.....	1,361,874,433	4	1,361,874,433	89.63
1955.....	1,449,045,166	4	1,449,045,166	92.88

¹ Total issue less notes held by chartered banks.

² Gross note circulation only; notes held by other

chartered banks are not available. Includes, prior to 1950, a relatively small amount issued for circulation outside Canada.

³ Figures based on estimates of population as given at p. 151; see headnote to this table. ⁴ In January 1950, the chartered banks' liability for such of their notes issued for circulation in Canada as then remained outstanding was transferred to the Bank of Canada.

Coinage.—Under the Currency, Mint and Exchange Fund Act (R.S.C. 1952, c. 315), gold coins may be issued in denominations of twenty dollars, ten dollars and five dollars (nine-tenths fine or millesimal fineness, 900). Subsidiary coins include: silver coins in denominations of one dollar, 50 cents, 25 cents, 10 cents (eight-tenths fine or millesimal fineness, 800); pure nickel five cent coins; and bronze (copper, tin and zinc) one cent coins. Provision is made for the temporary alteration of composition in event of a shortage of prescribed metals. A tender of payment of money in coins is a legal tender in the case of gold coins for the payment of any amount; in the case of silver coins for the payment of an amount up to \$10; nickel coins for payment up to \$5; and bronze coins up to 25 cents.

5.—Canadian Coin in Circulation as at Dec. 31, 1945-55

NOTE.—The figures shown are of net issues of coin. Figures from 1901 are shown in the corresponding table of previous Year Books beginning with the 1927-28 edition.

Year	Silver	Nickel	Tombac ¹	Steel	Bronze	Total	Per Capita ²
	\$	\$	\$	\$	\$	\$	\$
1945.....	58,327,590	4,823,237	1,407,462	1,521,170	7,499,263	73,578,722	6.09
1946.....	59,944,549	5,113,103	1,155,791	1,520,849	8,024,547	75,758,839	6.16
1947.....	61,049,986	5,503,117	868,994	1,520,647	8,382,327	77,325,071	6.16
1948.....	63,829,640	6,117,555	730,064	1,520,210	9,088,221	81,285,690	6.34
1949.....	67,874,750	6,753,780	661,333	1,519,743	9,407,325	86,216,931	6.41
1950.....	73,473,724	7,393,138	621,440	1,519,419	10,012,143	93,019,864	6.78
1951.....	78,638,143	7,815,103	599,655	1,701,849	10,794,169	99,548,919	7.11
1952.....	83,463,939	7,814,398	584,882	2,278,329	11,476,591	105,618,139	7.32
1953.....	89,550,236	7,813,081	570,847	3,109,691	12,130,181	113,174,036	7.66
1954.....	91,350,637	7,810,723	560,577	3,458,758	12,392,389	115,573,084	7.60
1955.....	95,574,457	8,076,800	555,912	3,457,712	12,956,807	120,621,688	7.62

¹ Tombac, a copper-zinc alloy, was used to conserve nickel for war purposes; no coins of this metal have been issued since 1944.

² Per capita figures are based on estimates of population as given at p. 151.

The Royal Canadian Mint.—The Mint at Ottawa was established as a branch of the Royal Mint under the (Imperial) Coinage Act 1870 and opened on Jan. 2, 1908. In 1931 (21-22 Geo. V, c. 48) it was constituted a branch of the Canadian Department of Finance and has since operated as the Royal Canadian Mint. From 1858 the British North American provinces, and later Canada, obtained their coins from the Royal Mint at London or from The Mint, Birmingham. Before that date, coins were mainly British, United States and Spanish. In its earlier years the operations of the Mint in Canada were confined to the production of gold, silver and bronze coins for domestic circulation and of British sovereigns and small coins struck under contract for Newfoundland and Jamaica.

Before 1914 only small quantities of gold bullion were refined but during World War I the Mint came to the assistance of the British Government by establishing a refinery in which nearly 20,000,000 oz.t. of South African gold were treated on Bank of England account. The subsequent development of the gold mining industry in Canada resulted in gold refining becoming one of the principal activities of the Mint. Fine gold produced from the rough bullion shipments received from the mines is purchased by the Mint and later delivered to the Bank of Canada for account of the Minister of Finance in bars of approximately 400 oz.t. each or, for those mines authorized to sell gold in the open market, the bullion is shipped to various domestic and foreign processors. The fine silver extracted from the rough gold is generally used for coinage purposes.

6.—Annual Receipts of Gold Bullion at the Royal Canadian Mint and Bullion and Coinage Issued 1945-55

NOTE.—Figures from 1926 are given in the corresponding table of previous Year Books beginning with the 1946 edition.

Year	Gold Received	Gold Bullion Issued	Silver Coin Issued	Nickel Coin Issued	Steel Coin Issued	Bronze Coin Issued
	oz. t.	oz. t.	\$	\$	\$	\$
1945.....	2,503,416	2,499,163	3,416,300	—	950,300	748,500
1946.....	2,652,245	2,665,964	1,710,000	291,500	—	528,500
1947.....	2,868,469	2,859,084	1,186,000	391,000	—	360,300
1948.....	3,401,991	3,405,073	2,829,956	615,500	—	708,300
1949.....	3,925,618	3,865,296	4,148,842	637,500	—	321,901
1950.....	4,422,968	4,347,961	5,641,805	640,510	—	607,003
1951.....	4,169,480	4,167,485	5,213,677	423,003	182,829	783,329
1952.....	3,953,158	4,031,063	4,869,552	597	576,965	683,820
1953.....	3,684,074	3,626,497	6,138,686	234	831,915	655,130
1954.....	3,829,431	3,998,836	1,864,968	27	350,229	263,897
1955.....	3,947,637	3,952,764	4,269,157	267,801	—	566,863

Subsection 2.—General Public Holdings of Certain Liquid Assets

The Bank of Canada's presentation of statistics concerning the volume of money is given in Table 7. This shows not only currency and active bank deposits but also inactive chartered bank deposits and Government of Canada securities which, although not used to make payments, are forms in which the public holds its liquid funds.

7.—General Public Holdings of Certain Liquid Assets as at Dec. 31, 1946-55

(Millions of dollars)

Year	Currency and Active Bank Deposits	Inactive Chartered Bank Notice Deposits ¹	Government of Canada Securities ²	Total
1946.....	3,996	2,856	11,174	18,026
1947.....	3,944	3,143	10,763	17,850
1948.....	4,335	3,408	10,249	17,992
1949.....	4,422	3,751	9,902	18,075
1950.....	4,851	3,861	10,066	18,778
1951.....	4,843	3,894	9,388	18,125
1952.....	5,173	4,129	9,062	18,364
1953.....	5,134	4,211	9,283	18,628
1954.....	5,456	4,712	8,713	18,881
1955.....	5,791	5,122	9,083	19,996

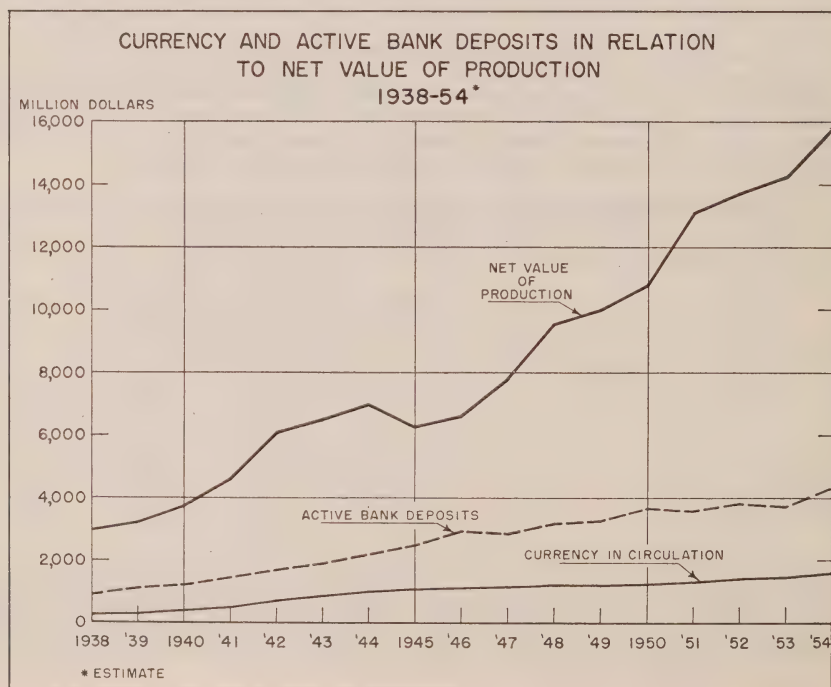
¹ Estimated aggregate minimum quarterly balances in chartered bank personal savings deposits in Canada plus non-personal notice deposits in Canada.

² Holdings of all investors, other than the Bank of Canada, chartered banks and Government of Canada accounts. Includes direct and guaranteed securities (including refundable taxes) at par. Direct debt includes both matured and unmatured issues outstanding, exclusive of sinking fund holdings; guaranteed debt is included on the basis of total unmatured issues outstanding; Newfoundland debt assumed by the Government of Canada has been included since June 1949. Foreign pay securities have been valued at official mid-rates of exchange to Sept. 30, 1950, and at market rates thereafter.

In measuring currency and active bank deposits it is necessary to decide which categories of bank deposits should be classed as active and which, by their nature, should be regarded more appropriately as part of the public's other liquid asset holdings. Generally it has been satisfactory to classify bank deposits as active if cheques may be drawn against them. In other countries this criterion has seemed to work fairly well because cheques may not be drawn against savings deposits. In Canada however cheques are, in practice, drawn freely against savings deposits and this poses an awkward problem. To omit all savings deposits of chartered banks would ignore the obvious fact that, for many people, a savings account is an active chequeing account which is very similar to a current deposit. On the other hand it is known from available information that, of the total amount on deposit in savings accounts in Canada, much the larger part is, in practice, inactive. Chartered banks pay interest on the minimum quarterly balances in personal savings accounts, i.e., on the sum that has been left undisturbed for the quarterly period; from the amount of interest that is actually paid on this basis as compared with the nominal rate of interest, it is apparent that the aggregate minimum quarterly balances in personal savings accounts are about five-sixths of the total of such deposits.

It is felt therefore that a more realistic account of monetary developments in Canada—and one more comparable with the usual presentation of similar statistics in other countries—is obtained by omitting the minimum quarterly balances in personal savings deposits and non-personal notice deposits from active money statistics. It has seemed preferable to exclude these deposits on the basis that they are inactive in practice rather than to include them on the grounds that they are potentially active because cheques may be issued against them.

Government deposits are given different treatment in different countries as far as volume-of-money statistics are concerned. In general the commonly used figure of bank deposits excludes Government deposits and, on the whole, it appears preferable to exclude Government of Canada deposits from the Canadian active money figures.



8.—Summary Statistics of Currency and Active Bank Deposits as at Dec. 31, 1946-55

(Millions of dollars)

Year	Currency Outside Banks ¹			Active Bank Deposits			Total Currency and Active Bank Deposits
	Notes	Coin	Total Currency	Chartered Bank Net ²	Bank of Canada 'Other' Deposits ³	Total Active Bank Deposits	
1946.....	1,031	65	1,096	2,806	94	2,900	3,996
1947.....	1,046	66	1,112	2,764	68	2,832	3,944
1948.....	1,115	70	1,185	3,069	81	3,150	4,335
1949.....	1,110	74	1,184	3,111	127	3,238	4,422
1950.....	1,136	78	1,214	3,430	207	3,637	4,851
1951.....	1,191	84	1,275	3,502	66	3,568	4,843
1952.....	1,289	88	1,377	3,751	45	3,796	5,173
1953.....	1,335	94	1,429	3,675	30	3,705	5,134
1954.....	1,362	96	1,458	3,967	31	3,998	5,456
1955.....	1,449	101	1,550	4,207	34	4,241	5,791

¹ Note circulation excluding notes held by chartered banks together with total coin issued by the Mint, less coin held by the banks. ² Demand and notice deposits, deposits of provincial governments, United Kingdom and foreign banks; less 'float', i. e., items in transit as shown in month-end returns. ³ Excludes Government of Canada, chartered bank and foreign deposits.

Section 3.—Commercial Banking

As one of the chief functions of the early banks in Canada was to issue notes to provide a convenient currency or circulating medium, it has been expedient to cover both currency and banking in one historical sketch, which is given in the 1938 Year Book, pp. 900-905. A list of the banks at Confederation appears in the 1940 Year Book, p. 897, and bank absorptions since 1867 are given in the 1941 edition, pp. 812-813. A table in the 1937 Year Book, pp. 894-895, shows the insolvencies from Confederation; the last insolvency occurred in 1923. The more important of the revisions in banking legislation contained in the 1954 Bank Act are outlined in Subsection 1.

Subsection 1.—Chartered Banks

Canadian commercial banks are chartered or licensed by the Government of Canada and operate under one federal statute—the Bank Act—which is revised every ten years and brought into line with changing economic conditions. In addition to conducting a commercial banking business the chartered banks hold most of the public's savings deposits.

Revisions in Banking Legislation in 1954.—In 1954 there were a number of important changes in legislation affecting the operations of the chartered banks, arising out of the decennial revision of the Bank Act and revisions of the Bank of Canada Act and the National Housing Act.

An amendment to the Bank Act concerned the minimum cash reserves which the chartered banks are required to hold in the form of notes of and deposits with the Bank of Canada. The banks had been required to maintain at all times cash reserves of not less than 5 p.c. of their Canadian dollar deposit liabilities. In practice they normally attempted to maintain a ratio of about 10 p.c. As a result of the amendment the banks are now required to maintain cash reserves, on the average during each calendar month, equal to not less than 8 p.c. of their Canadian dollar deposit liabilities. In conjunction with this change an amendment was made to the Bank of Canada Act which gives the Bank of Canada power to vary the minimum cash reserve requirement between 8 p.c. and 12 p.c. of Canadian dollar deposit liabilities, provided that the chartered banks are given a minimum period of one month's notice before each increase becomes effective and that the increase effective in any one month is not more than 1 p.c.

The National Housing Act 1954 gives the chartered banks authority to lend money for residential construction on the security of mortgages insured by a government agency. Prior to 1954 the Bank Act had prohibited the chartered banks from lending money on the security of mortgages on real or immovable property, except for loans made under the terms of the Farm Improvements Loans Act of 1944 and the Veterans Business and Professional Loans Act of 1946.

Another amendment to the Bank Act allows the banks to lend money to individuals, other than manufacturers or dealers, on the security of motor vehicles or any other personal or movable household property.

With the development of the Canadian oil industry a new section has been added to the Bank Act which allows oil loans to be made on various types of security including oil in the ground.

The amount of capital which a newly incorporated bank must have before it commences business has been doubled. The requirements are now a minimum subscribed capital of \$1,000,000 and a minimum paid-up capital of \$500,000. The previous requirements had been in effect since 1890.

Another amendment to the Bank Act was related to the problem of raising new capital. Under the provisions of the old Act there were difficulties attached to making a new issue of capital stock if the bank concerned had shareholders resident in countries where considerable detailed information (which banks are not required to make public in Canada) must be filed before the issue of capital stock is approved. The amendment relieves banks of the obligation to make offerings to shareholders resident in such countries.

After 1935 the chartered banks' note circulation in Canada was gradually withdrawn and in July 1950 the banks paid to the Bank of Canada approximately \$13,500,000, an amount equal to their outstanding Canadian notes, and thereafter the Bank of Canada became liable to redeem the notes on presentation. Some of the banks with foreign branches have continued to maintain a small issue of foreign currency notes but the costs, including taxes, have made it an unprofitable operation. The Bank Act now provides that all note issuing privileges of the banks shall cease and also provides for methods of retiring the outstanding foreign note circulation. With the above mentioned payment by the chartered banks to the Bank of Canada, the additional liability, often referred to as the "double liability", which formerly attached to a bank's shares in proportion to its outstanding note issue, was cancelled. When there was additional liability attached to the bank's shares it was essential that the shares could be transferred only by registration on the books of the bank. As this is no longer necessary an amendment to the Bank Act provides that each bank, if it so wishes, may provide for another method of share transfer.

Liquid Asset Ratio.—In the course of discussions with the chartered banks in November and December 1955 the Bank of Canada urged the adoption of a standard practice regarding the maintenance of a minimum ratio of liquid assets (cash, day-to-day loans and treasury bills) to deposits. The purpose of this suggestion was to establish a working principle of bank operations which would help the central bank in the task of restraining inflationary pressures that might threaten in the future. After discussion the banks agreed to work to achieve by May 31, 1956 a minimum liquid asset ratio of 15 p.c. which they would endeavour to maintain on a daily average basis from June on. On this basis fluctuations above or below 15 p.c. might occur from day to day or week to week, but for the month as a whole the average would not be below the target ratio.

Branches of Chartered Banks.—Although there are fewer chartered banks now than at the beginning of the century, there has been a great increase in the number of branch banking offices. Owing mainly to amalgamations, the number of banks declined from 34 in 1901 to 10 in 1931, and remained at that figure until the incorporation of a new bank—the Mercantile Bank of Canada—in 1953 brought the total to 11. Since

then the amalgamation in 1955 of the Bank of Toronto and the Dominion Bank as the Toronto-Dominion Bank, and the amalgamation of Barclays Bank (Canada) with the Imperial Bank of Canada in 1956 has reduced this number to nine. The number of branches of chartered banks in Canada is given in Table 9.

9.—Branches of Chartered Banks by Province as at Dec. 31 for Certain Years 1868-1955

NOTE.—Figures for 1920 and subsequent years include sub-agencies in Canada receiving deposits for the banks employing them; there were 708 such sub-agencies in 1955.

Province or Territory	1868	1902	1905	1920	1926	1930	1940	1943	1946	1950	1953	1954	1955
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	...	...	...	...	...	...	...	...	...	39	45	45	52
Prince Edward Island.....	—	9	10	41	28	28	25	23	23	23	23	24	24
Nova Scotia.....	5	89	101	169	134	138	134	126	127	144	149	151	152
New Brunswick.....	4	35	49	121	101	102	97	93	96	100	107	108	109
Quebec.....	12	137	196	1,150	1,072	1,183	1,083	1,041	1,067	1,164	1,230	1,254	1,280
Ontario.....	100	349	549	1,586	1,326	1,409	1,208	1,092	1,117	1,257	1,350	1,417	1,484
Manitoba.....	—	52	95	349	224	239	162	148	151	165	175	182	187
Saskatchewan.....	—	30	87	591	427	447	233	213	226	238	247	256	261
British Columbia.....	2	46	55	242	186	229	192	163	190	246	270	296	307
Yukon and N.W.T.....	—	—	3	3	3	4	5	5	6	9	8	8	8
Canada.....	123	747	1,145	4,676	3,770	4,083	3,311	3,084	3,219	3,679	3,932	4,088	4,246

10.—Branches of Individual Canadian Chartered Banks by Province as at Dec. 31, 1955

NOTE.—This table includes 708 sub-agencies in Canada for receiving deposits.

Chartered Banks	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.
	No.	No.	No.	No.	No.	No.
Bank of Montreal.....	15	1	18	17	127	244
Bank of Nova Scotia.....	21	9	44	37	38	178
Toronto-Dominion Bank.....	—	—	1	3	42	280
Provincial Bank of Canada.....	—	3	—	18	304	23
Canadian Bank of Commerce.....	5	6	21	10	91	310
Royal Bank of Canada.....	11	5	67	23	106	274
Banque Canadienne Nationale.....	—	—	—	—	553	19
Imperial Bank of Canada ¹	—	—	1	1	15	153
Barclays Bank (Canada) ¹	—	—	—	—	3	2
Mercantile Bank of Canada.....	—	—	—	—	1	1
Totals.....	52	24	152	109	1,250	1,484
	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Total
	No.	No.	No.	No.	No.	No.
Bank of Montreal.....	30	41	74	93	2	662
Bank of Nova Scotia.....	12	28	37	48	—	452
Toronto-Dominion Bank.....	30	34	32	30	—	452
Provincial Bank of Canada.....	—	—	—	—	—	348
Canadian Bank of Commerce.....	41	53	66	101	3	707
Royal Bank of Canada.....	60	79	63	88	2	778
Banque Canadienne Nationale.....	4	—	—	—	—	576
Imperial Bank of Canada ¹	10	26	35	19	1	261
Barclays Bank (Canada) ¹	—	—	—	2	—	7
Mercantile Bank of Canada.....	—	—	—	1	—	3
Totals.....	187	261	307	382	8	4,246

¹ Barclays Bank (Canada) and the Imperial Bank of Canada were amalgamated in 1956.

11.—Branches of Individual Canadian Chartered Banks outside Canada as at Dec. 31, 1954 and 1955

NOTE.—This table does not include four sub-agencies operating outside Canada.

Bank and Location	1954	1955	Bank and Location	1954	1955
	No.	No.		No.	No.
Bank of Montreal—			Royal Bank of Canada—		
United Kingdom.....	2	2	United Kingdom.....	2	2
United States.....	2	2	British West Indies.....	13	17
Bank of Nova Scotia—			United States.....	1	1
United Kingdom.....	1	1	Cuba.....	19	19
British West Indies.....	15	18	Puerto Rico.....	3	3
Dominican Republic.....	1	1	Central and South America.....	22	25
United States.....	1	1	Haiti.....	6	—
Cuba.....	8	8	Dominican Republic.....	1	6
Puerto Rico.....	3	3	France.....	—	1
Trinidad.....	1	1	Toronto-Dominion— ¹		
Canadian Bank of Commerce—			United Kingdom.....	1	1
United Kingdom.....	1	1	United States.....	1	1
British West Indies.....	3	3	Banque Canadienne Nationale—		
United States.....	5	5	France.....	1	1
			Totals.....	113	123

¹ Dominion Bank in 1954.

Financial Statistics of the Chartered Banks.—The classification of chartered bank assets and liabilities was revised by the Bank of Canada Act 1954, so that some of the statistics given in the following tables are not comparable with those appearing in earlier editions of the Year Book. Figures shown in Tables 12 to 14 prior to July 1954 have been adjusted to comply with the new classification. Month-end data are available from Dec. 31, 1954 to date in the Bank of Canada *Statistical Summary*.

12.—Assets and Liabilities of the Chartered Banks as at Dec. 31, 1946-55

(Millions of dollars)

Year Ended Dec. 31—	ASSETS							Total Assets ¹
	Bank of Canada Deposits and Notes	Canadian Day-to- Day Loans	Treasury Bills	Other Gov't. of Canada Direct and Guaranteed Securities	Other Canadian Securities, Insured Residential Mortgages and Loans in Canada	Canadian Dollar Items in Transit (net)	Foreign Cash Items, Securities and Loans	
1946.....	742	—	147	3,170	2,281	273	784	7,708
1947.....	720	—	139	2,509	3,058	336	844	7,911
1948.....	738	—	129	2,830	3,315	374	812	8,517
1949.....	753	—	126	2,986	3,392	306	800	8,653
1950.....	810	—	129	2,950	3,922	431	807	9,443
1951.....	892	—	236	2,518	4,052	512	869	9,458
1952.....	899	—	138	2,647	4,353	752	980	10,128
1953.....	888	—	244	2,516	4,878	751	1,064	10,656
1954.....	791	68	360	2,953	4,963	827	1,142	11,433
1955.....	840	81	427	2,632	6,205	1,002	1,127	12,702

For footnote, see end of table, p. 1113.

12.—Assets and Liabilities of the Chartered Banks as at Dec. 31, 1946-55—concluded

Year Ended Dec. 31—	LIABILITIES							
	Canadian Dollar Deposits					Foreign Currency Deposits	Share- holders Equity	Total Liabilities ¹
	Government of Canada	Notice		All Other	Total			
		Personal Savings	Other Notice					
1946.....	281	3,179	290	2,490	6,240	892	333	7,708
1947.....	216	3,453	287	2,489	6,446	898	340	7,911
1948.....	236	3,752	305	2,779	7,072	868	346	8,517
1949.....	164	4,086	347	2,720	7,317	795	353	8,553
1950.....	257	4,176	383	3,164	7,979	835	361	9,443
1951.....	88	4,296	316	3,273	7,973	878	375	9,458
1952.....	49	4,600	325	3,662	8,636	905	381	10,128
1953.....	473	4,756	278	3,603	9,111	963	419	10,656
1954.....	176	5,218	397	3,891	9,683	1,030	521	11,433
1955.....	517	5,633	464	4,234	10,848	1,056	567	12,705

¹ Includes other items not specified.

13.—Statement of Chartered Bank Assets and Liabilities as at Dec 31, 1954 and 1955

Assets and Liabilities	1954	1955
	\$'000	\$'000
Assets—		
Gold and coin in Canada.....	19,319	18,948
Gold and coin outside Canada.....	1,379	1,357
Notes of and deposits with Bank of Canada.....	791,167	840,406
Government and bank notes other than Canadian.....	40,920	44,118
Deposits with other banks in Canadian currency.....	3,163	3,873
Deposits with other banks in currencies other than Canadian.....	312,680	283,772
Cheques and other items in transit, net.....	803,700	999,100
Government of Canada treasury bills.....	359,799	427,464
Other Government of Canada direct and guaranteed securities maturing within two years, not exceeding market value.....	635,592	475,089
Government of Canada direct and guaranteed securities maturing after two years, not exceeding market value.....	2,317,562	2,156,877
Canadian provincial government direct and guaranteed securities, not exceeding market value.....	263,508	322,478
Canadian municipal and school corporation securities, not exceeding market value.....	177,312	217,658
Other Canadian securities, not exceeding market value.....	353,332	481,916
Securities other than Canadian, not exceeding market value.....	321,954	281,689
Mortgages and hypothecs insured under the National Housing Act 1954, less provision for estimated loss.....	74,240	293,663
Call and short loans in Canada to brokers and investment dealers, secured.....	211,191	259,904
Call and short loans outside Canada to brokers and investment dealers, secured.....	195,688	176,999
Loans to Canadian provincial governments.....	61,252	82,868
Loans to Canadian municipalities and school corporations, less provision for estimated loss.....	102,600	123,898
Other current loans in Canada, less provision for estimated loss.....	3,787,653	4,503,161
Other current loans outside Canada, less provision for estimated loss.....	292,590	341,094
Non-current loans, less provision for estimated loss.....	1,413	1,362
Bank premises at cost, less amounts written off.....	114,798	125,664
Shares of and loans to corporations controlled by the bank.....	31,093	31,280
Customers' liability under acceptances, guarantees and letters of credit as <i>per contra</i>	155,421	203,367
Other assets.....	3,831	3,731
Totals, Assets.....	11,433,157	12,701,736
Liabilities—		
Deposits by Government of Canada in Canadian currency.....	176,489	516,581
Deposits by Canadian provincial governments in Canadian currency.....	190,072	180,516
Deposits by other banks in Canadian currency.....	103,932	139,423
Deposits by other banks in currencies other than Canadian currency.....	82,565	105,671
Personal savings deposits payable after notice in Canadian currency.....	5,217,717	5,632,762
Other deposits payable after notice, in Canadian currency.....	397,353	463,649
Other deposits payable on demand, in Canadian currency.....	3,597,243	3,915,196
Other deposits in currencies other than Canadian.....	947,760	950,223
Advances from Bank of Canada, secured.....	—	2,000
Acceptances, guarantees and letters of credit.....	155,421	203,367
Other liabilities.....	43,139	25,513
Capital paid up.....	168,218	180,998
Rest account.....	344,235	374,394
Undivided profits at latest fiscal year end.....	9,013	11,453
Totals, Liabilities.....	11,433,157	12,701,736

14.—Canadian Cash Reserves 1946-55

(Millions of dollars)

NOTE.—For periods prior to July 1954 all figures are daily averages; from July 1954, in accordance with the Bank Act 1954, Bank of Canada deposits are averages of the juridical days in the month shown while Bank of Canada notes and Canadian dollar deposits are averages of the four consecutive Wednesdays ending with the second last Wednesday in the previous month.

Year	Cash Reserves			Canadian Dollar Deposit Liabilities ¹	Average Cash Reserve Ratio ²
	Bank of Canada Deposits	Bank of Canada Notes	Total		
1946.....	517	156	672	5,916	11.4
1947.....	501	169	670	6,209	10.8
1948.....	531	181	711	6,547	10.9
1949.....	550	196	746	7,178	10.4
1950.....	548	207	755	7,487	10.1
1951.....	567	225	792	7,759	10.2
1952.....	606	239	844	8,110	10.4
1953.....	627	256	883	8,624	10.2
1954—January to June.....	634	260	894	8,820	10.1
1954—July to December.....	525	286	811	9,097	8.9
1955.....	541	293	834	9,915	8.4

¹ From July 1954 the figures are not adjusted for items in transit and are not strictly comparable with the figures for earlier periods.

² Prior to July 1, 1954 the statutory minimum requirement was 5 p.c. for each day; since that date it has been a monthly average of 8 p.c.

15.—Classification of Chartered Bank Deposit Liabilities Payable to the Public in Canada in Canadian Currency as at Sept. 30, 1954 and 1955

Deposit Accounts of the Public of—	1954			1955		
	Personal Savings Deposit Accounts	Other Deposit Accounts of the Public	Total Deposit Accounts of the Public	Personal Savings Deposit Accounts	Other Deposit Accounts of the Public	Total Deposit Accounts of the Public
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Less than \$100.....	4,441,546	603,149	5,044,695	4,593,569	636,819	5,230,388
\$100 or over but less than \$1,000.....	2,639,808	461,480	3,101,288	2,745,203	485,925	3,231,128
\$1,000 or over but less than \$10,000...	1,130,692	228,605	1,359,297	1,201,750	244,481	1,446,231
\$10,000 or over but less than \$100,000.	46,929	38,822	85,751	53,528	42,933	96,461
\$100,000 or over.....	813	4,635	5,448	1,110	5,465	6,575
Totals, Deposits.....	8,259,788	1,336,691	9,596,479	8,595,160	1,415,623	10,010,783

16.—Classification of Chartered Bank Loans in Canada as at Dec. 31, 1954 and 1955

Class of Loan	1954	1955
	\$'000,000	\$'000,000
Government and Other Public Services.....	222.3	278.5
Provincial governments ¹	61.3	82.9
Municipal governments and school districts ¹	102.3	123.9
Religious, education, health and welfare institutions.....	58.4	71.7

For footnote, see end of table, p. 1115.

16.—Classification of Chartered Bank Loans in Canada as at Dec. 31, 1951 and 1955
—concluded

Class of Loan	1954	1955
	\$'000,000	\$'000,000
Financial¹	335.7	403.8
Investment dealers and brokers to the extent payable on call or within thirty days—		
Day-to-day loans.....	67.9	80.6
Other.....	143.3	179.3
Trust, loan, mortgage, investment and insurance companies and other financial institutions.....	124.5	143.9
Personal	751.3	966.1
Individuals, for other than business purposes, on the security of marketable stocks and bonds—		
For the purchase of Canada Savings Bonds.....	147.2	162.7
Other.....	252.6	338.9
Home Improvement Loans ³	—	23.9
Individuals, for other than business purposes, not elsewhere classified.....	351.5	440.6
Agricultural, Industrial and Commercial	2,854.8	3,322.8
Farmers.....	338.5	366.1
Chemical and rubber products.....	57.1	61.9
Electrical apparatus and supplies.....	30.7	47.7
Food, beverages and tobacco.....	187.9	195.3
Forest products.....	124.3	140.7
Furniture.....	17.8	19.2
Iron and steel products.....	99.7	99.2
Mining and mine products.....	67.7	63.4
Petroleum and products.....	79.2	97.5
Textiles, leather and clothing.....	133.1	143.8
Transportation equipment.....	47.7	49.3
Other products.....	54.3	58.0
Public utilities, transportation and communications.....	67.4	140.5
Construction contractors.....	187.3	278.3
Grain dealers and exporters.....	404.4	361.3
Instalment finance companies.....	180.9	297.3
Merchandisers.....	562.7	635.3
Other business.....	214.1	267.9
Totals, Loans in Canada	4,164.1	4,971.2

¹ Securities purchased direct from issuer with a term of less than one year at time of issue are included in loans.
² Excluding borrowings by instalment finance companies and by individuals on the security of marketable stocks and bonds. ³ Loans under Part IV of the National Housing Act 1954.

17.—Chartered Bank Earnings, Expenses and Changes in Shareholders' Equity, Fiscal Years Ended in 1951-55

(Millions of dollars)

NOTE.—In 1951-54 the financial years of seven banks ended on Oct. 31, two on Nov. 30 and two on Sept. 30. In 1955 the financial years of eight banks ended on Oct. 31, two on Nov. 30 and one on Sept. 30.

Item	1951	1952	1953	1954 ¹	1955
Current Operating Earnings—					
Interest and discount on loans.....	155.7	166.3	191.6	219.3	236.3
Interest, dividends and trading profits on securities.....	91.6	100.8	111.4	124.3	128.4
Exchange, commission, service charges and other current operating earnings.....	68.5	70.0	75.5	81.9	89.0
Totals, Current Operating Earnings	315.8	337.1	378.5	425.5	453.7
Current Operating Expenses—²					
Interest on deposits.....	58.3	61.5	65.7	91.5	105.2
Remuneration to employees.....	117.2	125.3	133.4	143.6	153.1
Contributions to pension funds.....	12.3	12.6	13.0	13.6	13.6
Provision for depreciation of bank premises.....	7.5	7.0	7.1	9.0	10.1
Other, incl. taxes other than income taxes.....	51.3	53.4	56.6	63.5	70.1
Totals, Operating Expenses²	246.5	259.8	275.8	321.2	352.1

For footnotes, see end of table, p. 1116.

17.—Chartered Bank Earnings, Expenses and Changes in Shareholders' Equity, Fiscal Years Ended in 1951-55—concluded

Item	1951	1952	1953	1954 ¹	1955
Net Current Operating Earnings ²	69.3	77.3	102.8	104.3	101.6
Less provision for losses and additions to inner reserves ³ ..	27.0	27.3	25.3 ⁴	-34.7 ⁴	23.1
Less provision for income taxes ⁵	19.7	25.5	30.1	58.0	37.2
Leaving for dividends and additions to shareholders' equity	22.6	24.5	47.4	81.0	41.3
Dividends to shareholders.....	17.3	18.6	20.4	21.5	26.2
Addition to shareholders' equity.....	5.3	5.9	27.0	59.5	15.1
ADDITIONS TO SHAREHOLDERS' EQUITY					
From net operating earnings and inner reserves to—					
Undivided profits.....	-0.7	-4.6	-6.1	2.5	2.4
Rest account.....	6.0	10.5	33.1	57.0	12.7
From issue of new shares—					
Rest account.....	5.6	0.5	1.9	29.9 ⁶	19.8
Capital paid up.....	2.8	0.4	2.3	16.2 ⁶	13.7
TOTALS, INCREASE IN SHAREHOLDERS' EQUITY.....	13.7	6.7	31.2	105.7	48.6

¹ Includes figures for eleven months only for two banks (accounting on the average for 7.3 p.c. of total bank assets) which changed their financial year-ends from Nov. 30 to Oct. 31. ² Before provision for income taxes and losses and additions to inner reserves. ³ Includes capital profits and losses and non-recurring items.

⁴ After deduction of re-transfers from inner reserves to undivided profits and rest account amounting to \$17,000,000 in 1953 and \$48,000,000 in 1954. ⁵ Includes provision for income taxes on the taxable portion of additions to inner reserves and on that portion of the funds re-transferred from inner reserves not taxed previously. Includes foreign income taxes.

⁶ Includes increase of \$400,000 in rest account and \$1,500,000 in capital paid up which represented the capital of a bank that commenced business in December 1953.

Cheque Payments.—The monthly record of amounts of cheques charged to customers' accounts at all chartered bank offices situated in the clearing-house centres of Canada is available from 1924. The trend indicated by cheques cashed shows the occurrence of three major economic cycles since World War I. The first reached its peak in 1920 with the low point of the succeeding depression in 1922. A high was next achieved in 1929, owing partly to economic conditions involving heavy stock speculation, followed by a low point in 1932. Since then, except for a minor setback in 1938, an upward trend has continued.

The amount of cheques cashed in the clearing-house centres advanced to a maximum of \$148,062,795,949 for 35 centres in 1954; this was 379 p.c. greater than in 1938, the increase paralleling the upward movement of gross national production during the same period. The advance was general in Canada's five economic areas. British Columbia showed the largest gain in this comparison with an increase of 517 p.c. The Atlantic Provinces* recorded the second largest advance of 445 p.c., followed by the Prairie Provinces, Ontario and Quebec. All areas except the Prairie Provinces, where a drop of 4 p.c. reflected decreased grain transactions, showed gains over 1953, Ontario and Quebec accounting for most of the \$10,000,000,000 advance.

Cheques cashed in 16 of the 35 centres showed increases in 1954 as compared with the preceding year. Payments in Canada's two leading centres attained historical maxima, Toronto advancing almost 19 p.c. and Montreal nearly 13 p.c. The sharp drop in grain production during 1954 contributed to the declines recorded by most western centres. Edmonton was the only centre in the Prairie Provinces to show an increase.

* Includes St. John's, Nfld., in 1954, which was excluded in the 1938 data. Excluding St. John's in 1954, ranking would be: Prairie Provinces, Ontario, Maritime Provinces and Quebec.

18.—Cheques Cashed at 35 Clearing-house Centres 1950-54

NOTE.—Figures for earlier years will be found in the corresponding table of previous Year Books.

Clearing-house Centre	1950	1951	1952	1953	1954
	\$	\$	\$	\$	\$
Atlantic Provinces	2,648,160,641	2,888,445,151	3,066,364,735	3,397,536,751	3,483,572,588
Halifax.....	1,186,545,819	1,334,025,774	1,374,609,920	1,473,198,649	1,578,537,898
Moncton.....	408,604,811	431,781,204	437,891,776	508,737,477	516,387,794
Saint John.....	521,695,644	568,605,976	632,357,394	680,166,727	686,419,892
St. John's.....	531,314,367	554,032,197	621,505,645	735,433,898	702,227,004
Quebec	29,106,858,312	32,728,719,454	35,494,559,222	38,139,426,225	42,853,000,654
Montreal.....	26,099,176,124	29,184,504,317	31,720,259,139	34,178,607,458	38,498,287,577
Quebec.....	2,695,919,675	3,163,124,781	3,358,306,012	3,535,148,293	3,946,839,332
Sherbrooke.....	111,762,513	381,090,356	415,994,071	425,670,474	407,873,745
Ontario	43,116,166,945	47,046,956,487	52,717,444,206	59,073,780,087	65,614,571,762
Brantford.....	422,413,293	486,994,671	495,283,901	522,687,516	494,781,493
Chatham.....	346,208,709	407,321,638	404,889,560	433,438,973	403,893,774
Cornwall.....	104,523,918 ²	187,013,346	196,278,431	200,420,702	214,915,773
Fort William.....	248,218,046	266,631,817	282,770,535	311,696,268	310,230,256
Hamilton.....	2,369,329,690	2,996,002,993	3,085,730,125	3,409,585,973	3,175,436,695
Kingston.....	273,225,082	279,208,526	316,909,862	341,335,311	366,274,647
Kitchener.....	536,279,128	623,023,658	617,647,692	765,740,577	766,279,900
London.....	1,391,711,953	1,528,832,870	1,567,887,355	1,973,402,244	2,047,498,306
Ottawa.....	4,140,136,704	4,459,566,076	5,454,556,571	4,588,480,404 ¹	3,415,300,005 ¹
Peterborough.....	308,157,373	339,002,949	334,153,813	365,075,178	368,850,304
St. Catharines.....	444,388,945	551,345,610	589,866,082	632,551,049	616,343,148
Sarnia.....	339,483,674	425,659,981	398,218,819	433,418,719	434,253,776
Sudbury.....	290,184,475	352,304,822	384,039,124	434,356,825	444,396,796
Toronto.....	30,276,045,017	32,271,836,720	36,606,773,373	42,579,170,381	50,646,604,608
Windsor.....	1,655,860,938	1,872,210,810	1,982,438,963	2,082,419,967	1,909,512,281
Prairie Provinces	17,287,706,202	19,574,933,117	22,807,514,530	25,019,281,050	24,155,325,487
Brandon.....	154,492,112	176,870,098	181,575,950	186,064,872	184,748,103
Calgary.....	2,870,683,290	3,349,247,240	4,452,583,018	5,020,505,662	4,985,475,389
Edmonton.....	2,371,405,098	2,459,202,689	2,966,420,466	3,514,626,107	3,609,993,451
Lethbridge.....	284,387,678	309,577,383	311,448,198	349,470,995	344,029,413
Medicine Hat.....	105,443,903	123,547,273	127,437,085	157,084,209	142,905,140
Moose Jaw.....	248,525,487	277,985,850	310,945,984	319,040,193	311,252,949
Prince Albert.....	140,421,297	154,870,799	163,053,807	175,349,193	160,153,483
Regina.....	1,640,419,630	1,759,586,765	2,147,982,066	2,482,735,680	2,297,905,822
Saskatoon.....	511,781,987	590,104,806	637,330,056	741,432,468	701,960,040
Winnipeg.....	8,960,145,720	10,373,940,214	11,508,237,900	12,072,971,671	11,416,901,697
British Columbia	8,446,566,739	9,945,578,848	11,111,011,328	11,786,822,545	11,956,325,458
New Westminster.....	401,102,736	479,943,321	491,736,985	554,708,805	608,576,723
Vancouver.....	6,901,611,242	8,212,945,667	9,193,882,535	9,790,943,286	9,752,576,977
Victoria.....	1,143,852,711	1,252,689,860	1,425,391,808	1,441,170,454	1,595,171,758
Grand Totals	100,635,458,839	112,184,633,057	125,196,894,021	137,416,846,658	148,062,795,949

¹ Excludes some debits reported in preceding years.² Included from May 1950.

Subsection 2.—Government and Other Savings Banks

There are three distinct types of savings banks in Canada in addition to the savings departments of the chartered banks and of trust and loan companies: (1) the Post Office Savings Bank, in which deposits are a direct obligation of the Government of Canada; (2) Provincial Government savings banking institutions in Newfoundland, Ontario and Alberta, where the depositor becomes a direct creditor of the province; and (3) two important savings banks in the Province of Quebec, the Montreal City and District Savings Bank and La Banque d'Économie de Québec, established under federal legislation and reporting monthly to the Federal Department of Finance. Other agencies for the promotion of thrift, through encouraging regular savings, are the co-operative credit unions.

Post Office Savings Bank.—The Post Office Savings Bank was established under the Post Office Act of 1867 (31 Vict., c. 10) in order to “enlarge the facilities now available for the deposit of small savings, to make the Post Office available for that purpose, and to give the direct security of the nation to every depositor for repayment of all money deposited by him together with the interest due thereon”. Branches of the Government of Canada’s Savings Bank under the Department of Finance were gradually amalgamated with this Bank over a period of 50 years and the amalgamation was completed in March 1929.

Summary financial statistics for the years ended Mar. 31, 1951-55 follow. Figures back to 1868 are available in previous editions of the Year Book.

<i>Item</i>	<i>1951</i>	<i>1952</i>	<i>1953</i>	<i>1954</i>	<i>1955</i>
	\$	\$	\$	\$	\$
Deposits	37,661,921	38,031,232	39,322,230	37,792,914	36,780,667
Made during year.....	10,368,266	11,011,092	11,521,743	10,597,046	9,402,227
Interest on deposits.....	733,899	722,804	741,954	733,009	713,081
Totals, cash and interest....	11,102,165	11,733,896	12,263,697	11,330,055	10,115,308
Withdrawals.....	12,194,872	11,364,584	10,972,700	12,859,370	11,127,555

Provincial Government Savings Banks.—Institutions for the deposit of savings are operated by the Provincial Governments of Newfoundland, Ontario and Alberta.

Newfoundland.—The Newfoundland Savings Bank was established in 1834 and the following is a summary financial statement for the years ended Mar. 31, 1952-54:—

<i>Item</i>	<i>1952</i>	<i>1953</i>	<i>1954</i>
	\$	\$	\$
Interest on investments, etc.....	765,752	790,653	892,218
Net rental income.....	—	2,589	2,958
Profit on sale of investments.....	2,093	5,215	81,020
Less: Interest on deposits.....	657,917	673,430	709,542
Less: Expenses.....	42,692	47,473	55,924
Less: Transfer to reserves.....	30,000	30,000	31,065
NET INCOME.....	37,236	47,554	179,665

The number of accounts increased from 35,136 at Mar. 31, 1954 to 36,078 at Mar. 31, 1955 and deposits increased from \$27,010,991 to \$28,151,709 in the same comparison. The interest rate on deposits of private individuals, trust accounts and estates is 3 p.c. per annum on accounts up to \$5,000, 2½ p.c. from \$5,001 to \$7,500, and 2 p.c. on accounts over \$7,500; on deposits of corporations the rate is 1 p.c. per annum. A general reserve of \$1,422,391 is held.

Ontario.—The establishment of the Province of Ontario Savings Office was authorized by the Ontario Legislature at the 1921 session and the first branches were opened in March 1922. Interest at the rate of 1½ and 2 p.c. per annum, compounded half-yearly, is paid on accounts and deposits are repayable on demand. Total deposits at Mar. 31, 1955 were \$73,300,000, and the number of depositors was approximately 95,000. Twenty-one branches are in operation throughout the Province.

Alberta.—Savings deposits are accepted at 48 Provincial Treasury Branches throughout Alberta. The total of these deposits at Mar. 31, 1955 was \$21,635,125 payable on demand and bearing interest at from ½ of 1 p.c. to 2 p.c.

The Provincial Treasury has issued demand certificates bearing interest at $1\frac{1}{2}$ p.c. or term certificates for one, two, three, four or five years in denominations of \$25 and upwards, bearing interest at 2 p.c. for one or two years, $2\frac{1}{2}$ p.c. for three or four years and $2\frac{1}{2}$ p.c. for five years. The total amount in savings certificates at Mar. 31, 1955 was \$229,526 made up of \$114,151 in demand certificates and \$115,375 in term certificates. Deposits from the public for the purchase of such certificates were discontinued as from April 1951.

Other Savings Banks.—The Montreal City and District Savings Bank, founded in 1846 and now operating under a charter of 1871 had, at Mar. 31, 1955, a paid-up capital and reserve of \$8,000,000, savings deposits of \$204,587,105 and total liabilities of \$213,268,779. Total assets amounted to \$213,268,779 including over \$163,000,000 of federal, provincial and municipal securities. La Banque d'Économie de Québec, founded in 1848 (as La Caisse d'Économie de Notre-Dame de Québec) under the auspices of the St. Vincent de Paul Society, incorporated by Act of the Canadian Legislature in 1855 and given a federal charter by 34 Vict., c. 7, had at Mar. 31, 1955 savings deposits of \$33,229,093 and a paid-up capital and reserve of \$3,000,000. Liabilities amounted to \$37,980,181 and total assets to \$37,980,181.

The following statement shows the combined savings deposits in the Montreal City and District Savings Banks and La Banque d'Économie de Québec for the years ended Mar. 31, 1946-55. Figures back to 1868 are available in previous editions of the Year Book.

<i>Year</i>	<i>Deposits</i>	<i>Year</i>	<i>Deposits</i>
	\$		\$
1946.....	140,584,525	1951.....	193,982,871
1947.....	153,137,545	1952.....	200,342,385
1948.....	170,103,786	1953.....	214,122,001
1949.....	184,250,615	1954.....	219,372,081
1950.....	192,567,275	1955.....	237,816,198

Credit Unions.*—Since its inception at the beginning of the twentieth century, the credit union movement in Canada has grown rapidly and steadily. At the end of 1954 3,920 credit unions held charters; the total membership reported by 3,690 credit unions was 1,560,715. From 1945 to 1954 almost 1,000,000 new members joined the movement and in 1954 about one Canadian in ten was a member of a credit union.

Savings and credit unions are organized on a co-operative basis to pool savings of members and to make loans to members. Members save by buying shares from and by making deposits in credit unions. Of total assets of credit unions amounting to \$552,362,571, \$510,722,956 or 92.5 p.c. was represented by savings of members. Deposits from members amounted to \$349,719,983 and share capital of members to \$161,002,973. Total savings per credit union averaged \$138,370 and savings per member averaged \$327.

The total amount of loans granted by credit unions for provident and productive purposes in 1954 was \$212,906,551. Such loans are granted from the accumulated pooled savings of the members and are to a large extent secured by personal notes. As the assets of credit unions have grown, the loans secured by personal notes have also increased.

With the rapid development of local credit unions, central credit unions have been organized in all provinces. Surplus funds of local credit unions and co-operatives may be invested or deposited in these central credit unions and local member credit unions and co-operatives may, in turn, borrow funds from them when necessary. By the end of 1954 26 central credit unions had been incorporated under provincial legislation, with total assets amounting to \$64,531,271, share capital of \$9,664,363 and deposits of \$46,225,493. The total loans granted to member credit unions and member co-operatives in 1954 amounted to \$23,065,740.

* Prepared by Paul G. Muller, Economics Division, Marketing Service, Department of Agriculture, Ottawa.

In 1954, after the Federal Government passed legislation, the Canadian Co-operative Credit Society was organized for the purpose of accepting surplus funds from central credit unions and borrowing money from member associations and banks. Loans by the Canadian Co-operative Credit Society may be made only to member societies holding a Federal Treasury Board certificate.

19.—Credit Unions in Canada 1945-54

Year	Provinces in which Unions Exist	Credit Unions Chartered	Credit Unions Reporting	Members ¹	Assets ¹
	No.	No.	No.	No.	\$
1945.....	9	2,219	2,175	590,794	145,890,889
1946.....	9	2,422	2,326	688,739	187,607,303
1947.....	9	2,516	2,367	779,199	221,116,168
1948.....	9	2,608	2,482	850,608	253,584,282
1949 ²	10	2,819	2,705	940,427	282,242,278
1950.....	10	2,965	2,801	1,036,175	311,532,143
1951.....	10	3,121	2,952	1,137,931	358,646,767
1952.....	10	3,335	3,080	1,260,435	424,400,375
1953 ^r	10	3,606	3,413	1,434,270	489,266,090
1954.....	10	3,920	3,690	1,560,715	552,362,571

¹ Reporting organizations only.

² Newfoundland included from 1949.

20.—Summary Statistics of Credit Unions by Province 1954

Province	Credit Unions Chartered	Credit Unions Re- porting	Members ¹	Assets ¹	Shares ¹	Deposits ¹	Loans to Members during Year ¹	Total Loans since Inception ¹
	No.	No.	No.	\$	\$	\$	\$	\$
Newfoundland.....	78	51	3,651	328,323	284,942	11,186	175,270	2,925,067
P.E. Island.....	58	58	10,000	1,181,657	943,803	117,109	1,105,150	6,153,372
Nova Scotia.....	220	189	51,952	7,927,069	7,186,157	166,888	5,047,302	39,831,792
New Brunswick...	164	163	56,059	8,055,163	7,153,320	124,371	4,128,358	34,198,384
Quebec—								
Desjardins.....	1,130	1,123	793,412	348,585,614	24,275,232	302,231,366	79,689,195	703,296,100
Que. League.....	155	155	39,000	7,297,324	5,390,202	1,604,123	6,000,000 ²	20,623,196
Montreal Fed....	13	13	26,449	19,486,187	1,185,816	17,105,394	2,303,968	33,653,135
Ontario.....	1,118	1,026	307,424	72,037,755	48,951,711	14,723,349	55,392,725	258,010,733
Manitoba.....	174	168	52,500	13,193,153	8,742,914	2,841,101	9,768,599	50,092,178
Saskatchewan.....	279	271	75,854	29,467,356	21,687,746	4,899,400	17,319,762	98,063,978
Alberta.....	224	213	39,887	9,374,350	7,974,660	645,424	6,913,091	39,577,954
British Columbia..	307	260	104,527	35,428,620	27,226,470	5,250,272	25,063,131	110,268,903
Totals, 1954.....	3,920	3,690	1,560,715	552,362,571	161,002,973	349,719,983	212,906,551	1,396,694,792
1953.....	3,606	3,413	1,434,270	489,266,090	133,196,460	329,440,725	203,189,045	1,183,788,241

¹ Reporting organizations only.

² Estimated.

Section 4.—Foreign Exchange

The Canadian dollar, adopted as Canada's currency in 1857, was equivalent to 15/73 of the pound sterling; in other words, the pound was equal to \$4.866 in Canadian currency at par, and remained so, with minor variations between the import and export gold points representing the cost of shipping gold in either direction, until the outbreak of World War I. During the first 11 years after Confederation, the Canadian dollar was at a premium in the United States, as the United States dollar was not, after the Civil War, redeemable in gold until 1878. From the latter date to 1914, the dollar in the two countries was equivalent at par and variation was only between the import and export gold points or under \$2 per \$1,000.

At the outbreak of World War I, the United Kingdom and Canada suspended the gold standard and their currencies fell to a discount at New York. However this discount was 'pegged', or kept at a moderate percentage, by sales of United States securities previously held in the United Kingdom, by borrowing in the United States and, after the United States entered the War, by arrangement with the United States Government. After the War when the exchanges were 'unpegged', the British pound went as low as \$3.18 and the Canadian dollar as low as 82 cents at New York. In the course of the next year or two, exchange returned practically to par and the United Kingdom resumed gold payments in April 1925 as did Canada on July 1, 1926. Until 1928 the exchanges were within the gold points but in 1929 the Canadian dollar again fell to a moderate discount at New York. The dislocation of exchange persisted, with the exception of a few months in the latter half of 1930, into 1931. Dollar rates were below the gold export points however only for a few scattered intervals. Immediately on the outbreak of World War II in September 1939 the United Kingdom and other sterling countries introduced foreign exchange control, involving fixed buying and selling rates which were \$4.02½ and \$4.03½ respectively in terms of the U.S. dollar. Meanwhile the Canadian dollar declined gradually until Sept. 16, 1939 when the Government established the Foreign Exchange Control Board.* Fixed buying and selling rates were provided for United States funds and sterling at the outset, being \$1.10 and \$1.11 and \$4.43 and \$4.47, respectively. The former rates fixed the value of the Canadian dollar at 90.09 cents to 90.91 cents in terms of the U.S. dollar; this was approximately the market rate to which the Canadian dollar had fallen just prior to exchange control and, in terms of devaluation, represented a level midway between the U.S. dollar and sterling.

Apart from a minor adjustment on Oct. 15, 1945 when selling rates for U.S. dollars and sterling were lowered to \$1.10½ and \$4.45, respectively, the Foreign Exchange Control Board's official rates remained unaltered until July 5, 1946. At this time the rate on the U.S. dollar was restored to par with buying and selling rates for U.S. dollars at \$1.00 and \$1.00½ and sterling, \$4.02 and \$4.04. These rates continued in effect until Sept. 19, 1949 when, following a 30.5 p.c. reduction by the United Kingdom in the value of sterling to \$2.80 U.S. (which action was paralleled in varying degrees by numerous other currencies), Canada returned to the former official rates of \$1.10 and \$1.10½ for United States funds. Sterling was quoted at new rates of \$3.07½ and \$3.08½, based on the New York cross rate.

On Sept. 30, 1950 the Minister of Finance announced that official fixed foreign exchange rates, which had been in effect at varying levels since 1939, would be cancelled effective Oct. 2 and that rates of exchange would be determined by conditions of supply and demand for foreign currencies, i.e., by market trading within the framework of exchange control. Subsequently the U.S. dollar fell to a level between \$1.04 and \$1.05 in terms of Canadian funds in early December 1950. After strengthening in the second quarter of 1951 it declined to between \$1.01 and \$1.04 in December 1951.

On Dec. 14, 1951 the Foreign Exchange Control Regulations were revoked by the Governor in Council and new Regulations were passed which exempted all persons and transactions from the various declaration and permit requirements of the Foreign Exchange Control Act, thus terminating exchange control in Canada. During 1952 the U.S. dollar declined gradually to an average of 96 cents in Canadian funds in September and then rose slightly to an average of 97 cents in December.

In 1953 the U.S. dollar strengthened during the first half of the year, averaging 99 cents in Canadian funds in June, then declined to an average of 97 cents in December. During 1954 the U.S. dollar averaged 97.3 cents, and in 1955 it averaged 98.6 cents, ending the year at slightly less than \$1.00.

* The operations of the Foreign Exchange Control Board from the time of its establishment to the termination of exchange control in December 1951 are reviewed in previous editions of the Year Book.

21.—Canada's Holdings of Gold and United States Dollars as at Dec. 31, 1940-55

(Millions of U.S. Dollars)

Year	Exchange Fund Account and Bank of Canada		Other Government of Canada Accounts	Total	Year	Exchange Fund Account and Bank of Canada		Other Government of Canada Accounts	Total
	Gold	U.S. Dollars	U.S. Dollars	Gold and U.S. Dollars		Gold	U.S. Dollars	U.S. Dollars	Gold and U.S. Dollars
1940.....	136.5	172.8	20.8	332.1 ¹	1948.....	401.3	574.5	22.0	997.8
1941.....	135.9	28.2	23.5	187.6	1949.....	486.4	594.1	36.6	1,117.1 ²
1942.....	154.9	88.0	75.6	318.5	1950.....	580.0	1,144.9	16.6	1,741.5
1943.....	224.4	348.8	76.4	649.6	1951.....	841.7	899.5	37.4	1,778.6
1944.....	293.9	506.2	102.1	902.2	1952.....	885.0	961.8	13.4	1,860.2
1945.....	353.9	922.0	232.1	1,508.0	1953.....	986.1	802.0	30.4	1,818.5
1946.....	536.0	686.3	22.6	1,244.9	1954.....	1,072.7	833.4	36.5	1,942.6
1947.....	286.6	171.8	43.3	501.7	1955.....	1,133.9	692.0	74.9	1,900.8

¹ Includes private holdings, exclusive of working balances, of \$2,000,000 at Dec. 31, 1940. ² Excludes \$18,200,000 borrowed in the United States in August 1949 and set aside for the retirement on Feb. 1, 1950 of a security issue guaranteed by the Federal Government and payable at the holder's option in U.S. dollars.

PART II.—MISCELLANEOUS COMMERCIAL FINANCE**Section 1.—Loan and Trust Companies***

An outline of the development of loan and trust companies in Canada from 1844 to 1913 is given in the 1934-35 Year Book, p. 993. The laws relating to loan and trust companies were revised by the Loan and Trust Companies Acts of 1914 (R.S.C. 1952, cc. 170 and 272), with the result that the statistics of provincially incorporated loan and trust companies ceased to be collected. However summary statistics of provincial companies have been supplied by those companies since 1922 and summary figures for the years 1953 and 1954 are included in Table 1 in order to complete the statistics for loan and trust companies throughout Canada. It is estimated that more than 95 p.c. of the business of provincial companies is represented in the figures, so that they may be accepted as fairly inclusive and representative of the volume of business transacted as compared with the federally licensed companies.

The statistics of Tables 2 and 3 refer to those companies incorporated both by the Government of Canada and by the provinces. Included in the statistics of federal companies, beginning with 1925, are data of loan and trust companies incorporated by the Province of Nova Scotia and brought by the laws of that Province under the examination of the Federal Department of Insurance, as well as data for trust companies in New Brunswick since 1934 and in Manitoba since 1938.

The progress of the aggregate of loan company business in Canada is indicated by the increase in the book value of the assets of all loan companies from \$188,186,072 in 1923 to \$373,383,125 in 1954. The assets of trust companies (not including estates, trust and agency funds, which cannot be regarded as assets in the same sense as company and guaranteed funds) increased from \$154,202,165 in 1928 to \$636,891,519 in 1954. In the former year the total of estates, trust and agency funds administered amounted to \$1,077,953,643 and in 1954 to \$4,398,395,472.

* Revised under the direction of K. R. MacGregor, Superintendent of Insurance, Department of Insurance, Ottawa.

Functions of Loan Companies.—The principal function of loan companies is the lending of funds on first-mortgage security, the money thus made available for development purposes being secured mainly by the sale of debentures to the investing public and by savings department deposits. The extent of investments in mortgages by federal and provincial loan companies may be gauged by the following figures; total assets of such companies for the years 1953 and 1954 amounted to \$323,591,214 and \$373,383,125 respectively, which amounts include mortgage loans of \$237,620,270 and \$266,261,246 respectively; thus, the resulting percentages of mortgages to total assets for those years were approximately 73 p.c. and 71 p.c. respectively.

Functions of Trust Companies.—Trust companies act as executors, trustees and administrators under wills or by appointment, as trustees under marriage or other settlements, as agents or attorneys in the management of the estates of the living, as guardians of minor or incapable persons, as financial agents for municipalities and companies and, where so appointed, as authorized trustees in bankruptcy. Such companies receive deposits for investment but the investing and lending of such deposits and of actual trust funds are restricted by law.

Statistics of Loan and Trust Companies.—A summary of operations of provincial and federal loan and trust companies is given in Table 1. As a result of the nature of the operations of the latter companies, which are intimately connected with the matter of probate, the larger trust companies usually choose to operate under provincial charters and the provincial figures represent much larger amounts than those of the federal companies.

The figures for federal loan companies include companies chartered by the Government of Nova Scotia which, by arrangement, come under inspection by the Federal Department of Insurance. The data for federal trust companies cover companies chartered by the Governments of Nova Scotia, New Brunswick and Manitoba for the same reason.

1.—Operations of Provincial and Federal Loan and Trust Companies as at Dec. 31, 1953 and 1954

Item	1953			1954		
	Provincial Companies ¹	Federal Companies	Total	Provincial Companies ¹	Federal Companies	Total
	\$	\$	\$	\$	\$	\$
Loan Companies—						
Assets (book values).....	106,571,244	217,019,970	323,591,214	117,936,572	255,446,553	373,383,125
Liabilities to the public.....	78,117,467	184,448,041	262,565,508	88,083,833	221,612,649	309,696,482
Capital Stock—						
Authorized.....	22,688,625	51,250,000	73,938,625	22,025,150	51,250,000	73,275,150
Subscribed.....	13,724,930	19,048,700	32,773,630	14,066,131	19,048,700	33,114,831
Paid-up.....	10,134,967	16,042,383	26,177,350	9,808,065	16,080,222	25,888,287
Reserve and contingency funds....	13,985,035	15,100,186	29,085,221	15,090,685	16,604,475	31,695,160
Other liabilities to shareholders..	4,333,775	1,211,787	5,545,562	4,953,989	919,482	5,873,471
Total liabilities to shareholders..	28,453,777	32,354,356	60,808,133	29,852,739	33,604,179	63,456,918
Net profits realized during year ² ..	2,196,694	3,318,327	5,515,021	2,149,117	4,040,928	6,190,045
Trust Companies—						
Assets (book values)—						
Company funds.....	81,569,089	29,629,779	111,198,868	83,140,092	29,451,872	112,591,964
Guaranteed funds.....	268,175,625	110,366,037	378,541,662	383,697,760	140,601,795	524,299,555
Totals, Assets.....	349,744,714	139,995,816	489,740,530	466,837,852	170,053,667	636,891,519
Estates, trust, and agency funds..	3,470,781,614	631,231,540	4,102,013,154	3,734,874,516	663,520,956	4,398,395,472
Capital Stock—						
Authorized.....	54,575,000	33,150,000	87,725,000	59,605,000	32,000,000	91,605,000
Subscribed.....	29,789,910	15,324,030	45,113,940	30,267,490	15,015,680	45,283,170
Paid-up.....	29,414,810	15,097,718	44,512,528	29,870,940	14,653,624	44,524,564
Reserve and contingency funds....	29,591,322	9,491,256	39,082,578	31,674,933	10,822,267	42,497,200
Unappropriated surpluses.....	6,139,831	1,892,405	8,032,236	6,121,239	1,522,318	7,643,557
Net profits realized during year ² ..	6,251,772	2,442,471	8,694,243	7,034,032	3,243,727	10,277,759

¹ Excludes one loan company incorporated under the laws of Quebec, the capital stock and debentures of which have been issued largely outside Canada.

² Net profits are before income taxes.

2.—Assets and Liabilities of Loan Companies 1950-54

Item	CHARTERED BY GOVERNMENT OF CANADA ¹				
	1950	1951	1952	1953	1954
Assets	\$	\$	\$	\$	\$
Real estate ²	5,604,342	6,571,189	6,148,146	5,949,482	5,768,982
Loans on real estate.....	124,199,351	136,720,021	146,071,337	159,833,300	178,968,416
Loans on securities.....	107,823	116,621	107,585	164,364	139,250
Bonds and debentures.....	33,877,064	33,674,081	34,938,078	31,929,613	48,807,414
Stocks.....	18,161,270	16,071,135	11,353,848	10,877,532	12,163,845
Cash.....	7,624,167	8,508,316	6,906,488	7,022,432	7,916,073
Totals, Assets³.....	190,733,017	203,103,850	206,973,153	217,019,970	255,446,553
Liabilities					
Liabilities to Shareholders—					
Capital paid-up.....	20,606,187	18,419,587	15,981,759	16,042,255	16,080,222
Reserves.....	15,973,533	17,139,072	14,894,345	15,100,186	16,604,475
Total Liabilities to Shareholders⁴....	37,810,634	37,199,813	31,712,347	32,354,356	33,604,179
Liabilities to the Public—					
Debentures.....	71,803,927	86,603,723	91,492,226	98,618,936	120,816,931
Deposits.....	79,141,868	77,219,272	81,669,175	83,382,889	97,696,275
Total Liabilities to the Public⁵.....	152,825,545	165,768,886	175,107,452	184,448,041	221,612,649
Totals, Liabilities.....	190,636,179	202,968,699	206,819,799	216,802,397	255,216,828
CHARTERED BY PROVINCES ⁶					
	1952	1953	1954		
Assets	\$	\$	\$		
Real estate ²	1,268,099	1,154,202	1,193,695		
Loans on real estate.....	54,357,392	77,786,970	87,292,830		
Loans on securities.....	980,247	981,122	1,019,631		
Bonds and debentures.....	33,506,617	23,597,703	22,094,106		
Stocks.....	1,981,118	2,263,272	2,298,200		
Cash.....	3,145,805	3,198,296	3,274,065		
Totals, Assets³.....	96,333,209	106,571,244	117,936,572		
Liabilities					
Liabilities to Shareholders—					
Capital paid-up.....	10,314,409	10,134,967	9,808,065		
Reserves.....	11,073,642	13,985,035	15,090,685		
Total Liabilities to Shareholders⁴.....	25,927,000	28,453,777	29,852,739		
Liabilities to the Public—					
Debentures.....	22,394,714	23,751,608	26,556,895		
Deposits.....	46,505,919	52,481,156	59,683,140		
Total Liabilities to the Public⁵.....	70,406,200	78,117,467	88,083,833		
Totals, Liabilities.....	96,333,209	106,571,244	117,936,572		

¹ Includes companies chartered by the Government of Nova Scotia which by arrangement are inspected by the Federal Department of Insurance. ² Book value of real estate for company use and other real estate.

³ Includes interest due and accrued and other assets.

⁴ Includes other liabilities to shareholders.

⁵ Includes other liabilities to the public.

⁶ Exclusive of Nova Scotia.

3.—Assets and Liabilities of Trust Companies 1950-54

Item	CHARTERED BY GOVERNMENT OF CANADA ¹				
	1950	1951	1952	1953	1954
	\$	\$	\$	\$	\$
Assets					
Company Funds ^{2,3}	27,988,873	28,446,331	28,731,666	29,629,779	29,451,872
Real estate ⁴	2,599,598	2,597,501	2,526,037	2,376,927	2,181,017
Loans on real estate	5,875,800	6,005,025	5,867,035	5,904,007	6,315,655
Loans on securities	856,911	864,615	763,618	714,659	610,784
Bonds and debentures	11,187,960	11,741,048	11,675,897	12,149,590	11,584,230
Stocks	4,054,756	4,356,787	4,632,875	4,544,646	4,498,384
Cash	1,946,129	1,710,349	2,060,423	2,423,362	3,156,458
Guaranteed Funds ^{2,3}	93,082,706	93,565,917	107,429,793	110,366,037	140,601,795
Loans on real estate	37,860,933	43,401,633	44,504,345	49,322,834	59,027,501
Loans on securities	3,891,278	3,719,861	4,151,541	3,419,930	5,577,269
Bonds and debentures	44,734,539	40,955,188	49,928,453	50,258,820	68,610,990
Stocks	1,267,316	1,078,284	1,236,757	1,454,318	1,898,885
Cash	4,594,867	3,723,589	6,760,472	5,052,409	4,273,214
Liabilities					
Company Funds ⁵	27,568,241	26,658,321	28,583,274	29,048,202	28,850,642
Capital paid-up	14,739,987	15,132,221	14,862,123	15,097,718	14,653,624
Reserves	9,671,504	8,905,180	9,178,309	9,301,381	10,822,267
Guaranteed Funds—Trust Deposits and Certificates	93,082,707	93,565,917	107,429,793	110,366,037	140,601,795
CHARTERED BY PROVINCES ⁶					
Assets					
Company Funds ³	72,736,140	74,399,404	75,097,721	81,569,089	83,140,092
Real estate ^{3,4}	5,372,046	5,745,326	5,263,529	7,199,260	7,823,819
Loans on real estate ³	15,086,011	16,045,557	14,306,251	13,743,299	13,016,509
Loans on securities ³	5,677,620	8,002,620	7,754,667	6,718,451	8,799,177
Bonds and debentures ³	25,677,269	22,768,209	24,134,845	27,229,386	25,690,753
Stocks ³	13,215,469	14,887,436	16,273,994	19,015,061	19,996,998
Cash	3,788,458	3,198,260	3,152,062	3,858,071	3,891,065
Guaranteed Funds ²	251,832,240	258,413,136	265,257,222	268,175,625	383,697,760
Loans on real estate	55,235,907	63,050,583	72,005,308	80,943,551	99,835,875
Loans on securities	9,461,646	11,758,999	11,332,357	10,873,145	20,265,826
Bonds and debentures	166,622,452	166,796,191	159,557,075	159,394,731	239,473,762
Stocks	3,576,030	3,324,910	2,092,145	1,642,565	978,378
Cash	13,482,543	12,981,945	19,916,400	14,716,402	21,553,634
Liabilities					
Company Funds ⁵	72,333,416	74,399,405	75,097,721	81,569,089	83,140,092
Capital paid-up	28,701,960	28,813,610	28,804,860	29,414,810	29,870,940
Reserves	24,664,370	26,061,982	27,360,303	29,591,322	31,674,933
Guaranteed Funds—Trust Deposits and Certificates	247,480,875	258,413,136	265,257,222	268,175,625	383,697,760

¹ Includes companies chartered by the Governments of Nova Scotia, New Brunswick and Manitoba which by arrangement are inspected by the Federal Department of Insurance. ² Includes other assets. ³ Includes interest due and accrued. ⁴ Book value of real estate for company use and other real estate. ⁵ Includes other company fund liabilities. ⁶ Chartered by all provinces except Nova Scotia, New Brunswick and Manitoba (see footnote 1).

4.—Estates, Trust and Agency Funds of Trust Companies Chartered by or Supervised by the Federal Government and by Provincial Governments as at Dec. 31, 1945-54

Year	Federal Companies ¹	Provincial Companies ²	Total	Year	Federal Companies ¹	Provincial Companies ²	Total
	\$	\$	\$		\$	\$	\$
1945.....	363,332,677	2,754,475,732	3,117,808,409	1950.....	494,636,746	3,126,058,749	3,620,695,495
1946.....	392,430,578	2,758,442,016	3,150,872,594	1951.....	543,983,754	3,282,558,573	3,826,542,327
1947.....	480,931,822	2,735,930,892	3,216,862,714	1952.....	588,550,279	3,383,650,088	3,972,200,367
1948.....	520,860,737	2,791,584,378	3,312,445,115	1953.....	631,231,540	3,470,781,614	4,102,013,154
1949.....	560,080,611	2,827,988,797	3,388,069,408	1954.....	663,520,956	3,734,874,516	4,398,395,472

¹ Includes companies chartered by the Governments of Nova Scotia, New Brunswick and Manitoba which, by arrangement are inspected by the Federal Department of Insurance. ² Excludes provincial companies of Nova Scotia, New Brunswick and Manitoba which are included in federal companies.

Section 2.—Licensed Small Loans Companies and Licensed Money-Lenders*

Licensed small loans companies and licensed money-lenders are subject to the provisions of the Small Loans Act (R.S.C. 1952, c. 251), an enactment of the Parliament of Canada regulating personal loans not in excess of \$500 made on the security of promissory notes of borrowers. Most of these notes are additionally secured by endorsements or chattel mortgages. The Act permits maximum rates of cost of loan, including charges of every kind, of 2 p.c. per month to licensed lenders and 12 p.c. per annum to unlicensed lenders. The small loans companies—four in number—were incorporated by special Acts of the Parliament of Canada, the first such company commencing business in 1928. Money-lenders, of which there are 61, are made up of companies otherwise incorporated and include a few partnerships and individuals. Table 5 gives the combined financial experience of small loans companies and licensed money-lenders for the years 1951-54.

* Further details are given in the Department of Insurance report *Small Loans Companies and Money-Lenders* for the year ended Dec. 31, 1954.

5.—Assets and Liabilities of Small Loans Companies and Money-Lenders 1951-54

Assets and Liabilities	1951	1952	1953	1954
	\$	\$	\$	\$
Assets.....	104,550,534	133,722,901	154,737,883	172,173,681
Small loan balances.....	69,259,906	76,990,337	81,840,415	88,822,891
Balances, large loans and other contracts.....	29,914,099	49,584,133	66,082,405	75,824,672
Cash.....	3,028,310	4,336,639	3,857,635	3,955,094
Other.....	2,348,219	2,811,792	2,957,428	3,571,024
Liabilities.....	104,550,534	133,722,901	154,737,883	172,173,681
Borrowed money.....	81,739,427	105,425,684	109,162,651	122,688,252
Reserves for losses.....	2,994,470	2,389,585	3,794,272	4,263,653
Paid-up capital.....	8,522,842	9,143,619	9,456,449	10,383,509
Surplus paid in by shareholders.....	322,570	1,772,570	12,222,570	11,587,820
Other.....	10,971,225	14,991,443	20,101,941	23,250,447

The combined companies showed a substantial increase in business for 1954 as compared with the previous year. The number of small loans made to the public during the year increased from 770,449 to 831,721, or by 8 p.c., and the amount of such loans rose from \$174,503,555 to \$186,696,899, or by 7 p.c. The average small loan made was approximately \$224 in 1954 compared with \$227 in 1953. At the end of 1954 small loans outstanding numbered 523,628 for an amount of \$88,822,891 or an average of \$170 per loan and, for 1953, small loans outstanding numbered 482,966 for an amount of \$81,840,415 or an average of \$169 per loan.

Section 3.—Sales of Canadian Bonds*

Canadian borrowers, whether governments or corporations, sold through various forms of financing a total of \$4,468,983,364 in new bond issues during 1954. This was an alltime record, contrasting with a total of \$2,945,488,665 in 1953, \$2,028,228,140 in 1952 and \$1,650,211,237 in 1951. It was well over the wartime peak financing of \$3,934,975,794 in 1945.

For purposes of analysis the 1954 total of \$4,468,983,364 may be classified as follows: federal and guaranteed, \$3,200,540,900; provincial and guaranteed, \$400,916,000; municipal, \$260,993,664; corporation, \$606,532,800. Of the federal and guaranteed total at \$3,200,540,900, the amount of \$2,750,540,900 represented direct financing and \$450,000,000 represented guaranteed financing by the Federal Government. Of the direct financing \$1,950,000,000 represented the total of three federal issues (at \$850,000,000, \$400,000,000, and \$700,000,000 respectively) which were floated to meet refunding requirements. On the other hand an amount of \$800,540,900 represented new capital acquired by public subscription to Canada Savings Bonds, Series Nine. In the federal guaranteed category, an amount of \$450,000,000 represented two issues (at \$200,000,000 and \$250,000,000 respectively) of financing for the Canadian National Railways. Consequently all federal financing (excluding short-term issues of less than one year) totalled \$3,200,540,900 in 1954 compared with \$1,950,548,900 in 1953. This greatly increased financing largely contributed to the record total of all security issues placed during the year.

Excluded from the total of \$3,200,540,900 in federal financing are the short term issues of less than one year in the form of treasury bills, treasury notes, and deposit certificates. These amounted to \$3,780,000,000 and if included would bring the grand total of all federal borrowing in 1954 to \$6,980,540,900 and the grand total of all Canadian security financing to \$8,248,983,364. Comparable figures for 1953 were \$5,615,548,900 and \$6,610,488,665 respectively.

Although Canadian short term financing of less than one year dates back to the 1930's when Government of Canada treasury bills were first introduced, it did not become of particular interest outside the banking system until 1954. This development arose because increasing numbers of corporations turned to short term securities for the profitable employment of surplus funds not required for immediate business needs. An expanding market for treasury bills, in turn, enabled the Government of Canada to increase substantially the total of bills outstanding with important gains in terms of convenience and economy. As a result about 37 p.c. of the total bills outstanding were held outside the banking system by the end of 1954 compared with less than 5 p.c. at the end of 1953.

In contrast to upward trends in other security classifications provincial and guaranteed financing was down somewhat in 1954 from the totals shown in 1953. Total financing in this category amounted to \$400,916,000 of which \$226,032,000 represented direct financing and \$174,884,000 represented financing guaranteed by various provincial governments. These totals compared with \$258,500,000 direct provincial financing and \$178,116,900 guaranteed provincial financing in 1953.

* Prepared by E. C. Gould, Financial Editor, *The Monetary Times*.

Provinces which directly entered the 1954 bond market by month, were:—

<i>Province</i>	<i>Month</i>	<i>Amount</i>
		\$'000
New Brunswick.....	January.....	8,500
Quebec.....	January.....	25,000
Prince Edward Island.....	February.....	2,500
Nova Scotia.....	February.....	8,000
Ontario.....	March.....	50,000
New Brunswick.....	March.....	9,232
Saskatchewan.....	April.....	10,000
Prince Edward Island.....	May.....	1,300
Quebec.....	May.....	34,500
Saskatchewan.....	May.....	6,000
Saskatchewan.....	May.....	12,800
New Brunswick.....	June.....	9,200
Newfoundland.....	August.....	12,000
Manitoba.....	August.....	3,000
Manitoba.....	August.....	12,000
Nova Scotia.....	November.....	12,000
Saskatchewan.....	December.....	10,000
TOTAL.....		226,032

Provincial guaranteed financing at \$174,884,000 consisted principally of flotations by The Hydro-Electric Power Commission of Ontario, the Quebec Hydro-Electric Power Commission, and municipal school financing guaranteed by the Province of British Columbia. The Province of Ontario guaranteed \$100,000,000 in two issues of \$50,000,000 each and the Province of Quebec guaranteed one issue at \$25,000,000. The very considerable number of school issues guaranteed by the Province of British Columbia totalled \$22,244,000.

Other sizable provincial guaranteed financing consisted of a \$12,000,000 issue of the Manitoba Hydro-Electric Board, a \$6,300,000 issue of the British Columbia Power Commission, and a \$4,500,000 issue of the Pacific Great Eastern Railway Company. A number of smaller flotations guaranteed by the Provinces of Newfoundland, Prince Edward Island and British Columbia for municipal and utility improvements made up the remainder of the provincial guaranteed total.

As distinct from provincial guaranteed municipal issues, direct municipal bond financing in 1954 totalled \$260,993,664, including \$51,352,886 for parochial and miscellaneous purposes. This was an increase over the 1953 total of \$222,027,065 which included \$35,242,605 for parochial and miscellaneous purposes. Consequently all municipal financing (without provincial guarantees) showed an increase of \$38,966,599 over the previous year.

The largest amount borrowed by any one municipality during 1954 was represented by two flotations of Metropolitan Toronto at \$30,235,000 and \$26,155,000. Other municipalities borrowing in excess of \$3,000,000 were: the City of Montreal, \$19,266,000; the Metropolitan Commission of Montreal, \$3,665,000; the Montreal Transportation Commission \$27,000,000; the City of Vancouver, \$6,462,000; the City of Jacques Cartier, \$6,525,000; and the City of Hamilton, \$4,498,903.

During 1954 corporate financing totalled \$606,532,800, an increase of \$270,237,000 over the \$336,295,800 total in 1953. The largest single issue (\$50,000,000) was syndicated for the Aluminum Company of Canada Limited and the largest amount borrowed by any one corporation (excluding guarantees for the CNR) was represented by two issues of the Canadian Pacific Railway totalling \$50,020,000. The first of these issues at \$25,020,000 was raised by the private sale of Equipment Trust Certificates in the United States and the second at \$25,000,000 represented collateral trust bonds offered on the Canadian market.

Other 1954 corporate borrowers of over \$10,000,000 were: British Columbia Electric Company Limited, \$15,000,000; Canadian Breweries Limited, \$15,000,000; The T. Eaton Acceptance Company Limited, \$20,000,000; Simpsons-Sears Limited, \$12,500,000; Inter-provincial Pipe Line Company, \$30,000,000; Steep Rock Mines Limited, \$17,000,000; General Motors Acceptance Corporation of Canada Limited, \$15,000,000; The Bell Telephone Company of Canada, \$40,000,000; Falconbridge Nickel Mines Limited,

\$30,000,000; Gunnar Mines Limited, \$19,500,000; British American Oil Company Limited, \$15,000,000; Canadian Industries (1954) Limited, \$25,000,000; and Dryden Paper Company Limited, \$10,500,000. The International Bank for Reconstruction and Development also took advantage of the strong bond market in 1954. Its issue for \$25,000,000 on the Canadian market was well received by investors.

A significant trend in the sale of corporate bonds during 1954 pertained to a greater offering of convertible securities as a means of raising additional equity capital. Practically all such issues met with a ready reception on the part of investors and many of them later sold at substantial premiums, reflecting the strength prevailing on stock markets at the time. An increased emphasis on the convertible feature constituted a strong factor which tended to narrow the differential between bond and stock yields during 1954.

In contrast to a general increase in new issues placed at home, Canadian bond sales in the United States declined considerably in 1954 from the previous year. This trend reflected a closer relationship between interest rates in the two countries and a larger prevailing discount for United States funds. Although \$306,599,215 of Canadian new issues were sold in the United States during 1953, only \$173,598,000 were sold during 1954.

A Directory of "Security Issues Placed During 1954" published in *The Monetary Times, Annual National Review 1955* shows that six federal issues (excluding all short term financing of less than one year), 37 provincial and guaranteed issues, 644 municipal issues (including parochial and miscellaneous) and 80 corporate issues were placed in 1954 as compared with two federal issues, 25 provincial and guaranteed issues, 589 municipal issues and 77 corporate issues in 1953. Thus 767 new issues of all classifications were sold in 1954 compared with 693 in 1953. Consequently the total increase of 74 represented a dollar increase of \$1,523,494,699, i.e., from \$2,945,488,665 in 1953 to \$4,468,983,364 in 1954. As already stated, much the greater dollar amount was the result of very considerable increases in relatively few issues of federal and guaranteed financing. In this one category the number of issues placed increased by only four while the total dollar amount increased by \$1,249,992,000. Excluding federal and guaranteed financing the 1954 increase of 70 issues over 1953 accounted for a corresponding dollar increase of \$273,502,699.

6.—Sales of and Applications for Federal Government Bonds, Feb. 1, 1940 to Nov. 1, 1954

(SOURCE: *The Monetary Times*)

Type and Date of Loan	Purchases by Individuals	Purchases by Corporations	Total Cash Sales	Applications
	\$'000	\$'000	\$'000	No.
War Loans—				
Feb. 1, 1940.....	132,000	68,000	200,000	178,363
Oct. 1, 1940.....	113,000	187,000	300,000	150,890
Victory Loans—				
June 15, 1941.....	279,500	450,900	730,400	968,259
Mar. 1, 1942.....	335,600	507,500	843,100	1,681,267
Nov. 1, 1942.....	374,600	616,800	991,400	2,032,154
May 1, 1943.....	529,500	779,200	1,308,700	2,668,420
Nov. 1, 1943.....	599,700	775,300	1,375,000	3,033,051
May 1, 1944.....	641,500	763,500	1,405,000	3,077,123
Nov. 1, 1944.....	766,400	751,200	1,517,600	3,327,315
May 1, 1945.....	836,300	732,600	1,568,900 ¹	3,178,275
Nov. 1, 1945.....	1,221,342	801,132	2,027,474 ²	2,947,636
	\$		\$	
Savings Loans—²				
Nov. 1, 1946.....	535,285,550	—	535,285,550	1,248,444
Nov. 1, 1947.....	287,733,100	—	287,733,100	910,742
Nov. 1, 1948.....	260,491,150	—	260,491,150	862,686
Nov. 1, 1949.....	320,200,000	—	320,200,000	1,015,579
Nov. 1, 1950.....	285,600,000	—	285,600,000	963,048
Nov. 1, 1951.....	394,642,400	—	394,642,400	986,900
Nov. 1, 1952.....	380,761,100	—	380,761,100	982,274
Nov. 1, 1953.....	850,548,900	—	850,548,900	1,267,506
Nov. 1, 1954.....	800,540,900	—	800,540,900	1,175,264

¹ Department of Finance figures.

² Total subscriptions were limited to \$2,000 for any one individual for the 1946 issue, \$1,000 for the issues of 1947–50 inclusive and \$5,000 for the issues of 1951–54. Figures for the issues 1946–54 are for the entire loans, i.e., either to the year-end or to the closing date within the year or in subsequent years.

7.—Sales of Canadian Bonds by Class of Bond and Country of Sale 1945-54

(SOURCE: *The Monetary Times*)

NOTE.—Figures from 1904 are given in the corresponding table of previous Year Books beginning with the 1933 edition.

Year	CLASS OF BOND					
	Federal ¹	Provincial	Municipal	Parochial and Miscellaneous	Corporation	Total
	\$	\$	\$	\$	\$	\$
1945.....	3,577,691,000	162,002,084	30,430,210	10,952,500	153,900,000	3,934,975,794
1946.....	985,285,550	114,296,800	140,815,491	43,155,800	581,499,188	1,865,052,829
1947.....	293,333,100	229,562,000	238,887,410	14,968,600	379,674,500	1,156,425,610
1948.....	445,491,150	312,619,500	84,014,291	21,010,000	310,506,000	1,173,640,941
1949.....	790,200,000	449,347,000	134,796,184	23,853,200	285,268,000	1,683,464,384
1950.....	2,167,600,000	373,824,500	150,369,281	30,466,369	431,180,303	3,153,440,453
1951.....	594,642,400	369,532,000	196,438,916	37,967,921	451,630,000	1,650,211,237
1952.....	830,761,100	426,973,000	147,690,940	49,264,100	573,539,000	2,028,228,140
1953.....	1,950,548,900	436,616,900	186,784,460	35,242,605	336,295,800	2,945,488,665
1954.....	3,200,540,900	400,916,000	209,640,778	51,352,886	606,532,800	4,468,983,364

Year	COUNTRY OF SALE			
	Canada ¹	United States	United Kingdom	Total
	\$	\$	\$	\$
1945.....	3,854,957,794	80,018,000	—	3,934,975,794
1946.....	1,801,400,829	63,652,000	—	1,865,052,829
1947.....	1,068,114,610	88,311,000	—	1,156,425,610
1948.....	1,023,640,941	150,000,000	—	1,173,640,941
1949.....	1,543,464,384	140,000,000	—	1,683,464,384
1950.....	2,980,740,453	172,700,000	—	3,153,440,453
1951.....	1,266,188,237	384,023,000	—	1,650,211,237
1952.....	1,743,578,115	284,650,025	—	2,028,228,140
1953.....	2,638,889,450	306,599,215	—	2,945,488,665
1954.....	4,295,385,364	173,598,000	—	4,468,983,364

¹ Excludes treasury bills, deposit certificates and other financing for a term of less than one year.

CHAPTER XXVII.—INSURANCE*

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Insurance, for the purpose of statistical analysis, is usually classified as fire, life and casualty. Most companies operate under Federal Government registration although some have provincial licences only. Also many fraternal orders and societies are engaged in this kind of business. Special articles relating to insurance that have appeared in previous editions of the Year Book are listed in Part II of Chapter XXIX under the heading "Insurance".

Section 1.—Fire Insurance

In Canada fire insurance began with the establishment of agencies by British fire insurance companies. These, situated usually at the seaports, were operated by local merchants. The oldest existing agency of such a company commenced business at Montreal in 1804. The first Canadian company dates from 1809 and the first United States company to operate in Canada commenced business in 1821. A short account of the inception of fire insurance in Canada is given in the 1941 Year Book, pp. 846-847.

The report of the Superintendent of Insurance for the year ended Dec. 31, 1954 shows that at that date there were 301 fire insurance companies under federal registration; of these 75 were Canadian, 89 were British and 137 were foreign companies. In 1875, the first year for which authentic records were collected by the Department of Insurance, 27 companies operated in Canada—11 Canadian, 13 British and 3 United States. The proportionate increase in the number of British and foreign companies from 59 p.c. to 75 p.c. of the total number is a very marked point of difference between the fire and life insurance businesses in Canada, the latter being carried on very largely by Canadian companies.

* Material in this Chapter, except as otherwise indicated, has been revised under the direction of K. R. MacGregor, Superintendent of Insurance, Department of Insurance, Ottawa.

Subsection 1.—Total Registered Fire Insurance in Force in Canada

Of the total amount of fire insurance in force in Canada at the end of 1954, approximately 92 p.c. was accounted for by fire insurance companies under federal registration. The remainder was held by companies with provincial licences and permits, companies which generally confine their operations to the province of incorporation though they may be allowed to sell insurance in other provinces.

1.—Fire Insurance Transacted in Canada 1952-54

Item		Gross Insurance Written	Net in Force at End of Year	Net Premiums Written	Net Claims Incurred
		\$	\$	\$	\$
Federal Government Registrations.....	1952	35,371,554,787	37,317,499,723	139,777,732	61,124,918
	1953	41,091,691,709	41,703,092,570	145,971,915	66,755,144
	1954	44,727,908,574	45,605,786,183	148,446,105	70,443,828
Provincial Licences—					
(a) Provincial companies within prov- inces by which they are incorpo- rated.....	1952	1,908,809,507	2,574,996,679	10,782,628	5,322,188
	1953	2,318,389,997	2,977,148,786	12,670,659	6,670,976
	1954	2,131,857,868	2,893,838,379	12,366,273	6,838,128
(b) Provincial companies within prov- inces other than those by which they are incorporated.....	1952	268,664,292	294,072,031	912,623	444,821
	1953	391,621,441	417,257,445	881,781	370,798
	1954	118,855,767	169,783,907	851,246	419,215
Totals, Provincial Licences.....	1952	2,177,473,799	2,869,068,710	11,695,251	5,767,009
	1953	2,710,011,438	3,394,406,231	13,552,440	7,041,774
	1954	2,250,713,635	3,063,622,286	13,217,519	7,257,313
Lloyds, London.....	1952	708,046,922	908,257,933	6,065,759	2,986,392
	1953	1,086,373,258	1,111,987,781	7,153,177	3,819,776
	1954	972,866,520	949,200,097	7,159,990	2,785,790
Grand Totals.....	1952	38,257,075,508	41,094,826,366	157,538,742	69,878,319
	1953	44,888,076,405	46,209,486,582	166,677,532	77,616,694
	1954	47,951,488,729	49,618,608,566	168,823,614	80,486,961

Subsection 2.—Operational Statistics of Fire Insurance Companies under Federal Registration

The trend in the average rate payable for fire insurance has been generally downward, although high fire losses in certain recent years have had the effect of checking that tendency. The increase in value of insurable buildings and their contents tends to increase fire insurance premiums despite the downward trend of the average rate.

2.—Fire Insurance by Companies Operating under Federal Registration, Decennially 1880-1940 and Annually 1941-54

NOTE.—Figures for 1869-1900 are given in the 1939 Year Book, p. 973, and for 1901-39 in the 1942 edition, pp. 847-848.

Year	Amount in Force at End of Year	Net Premiums Written during Year	Net Claims Incurred during Year	Percent- age of Claims to Pre- miums	Gross Amount of Risks Taken during Year	Premiums Charged Thereon	Average Cost per \$100 of Insurance
	\$	\$	\$	p.c.	\$	\$	\$
1880.....	411,563,271	3,479,577 ¹	1,666,578 ²	47.90	384,051,861	3,958,437	1.03
1890.....	720,679,621	5,836,071 ¹	3,266,567 ²	55.97	620,723,945	7,019,319	1.13
1900.....	992,332,360	8,331,948 ¹	7,774,293 ²	93.31	803,428,654	10,031,735	1.25
1910.....	2,034,276,740	18,725,531 ¹	10,292,393 ²	54.96	1,817,055,685	24,584,296	1.36
1920.....	5,969,872,278	50,527,937 ¹	21,935,387 ²	43.41	6,790,670,610	71,143,917	1.05
1930.....	9,672,996,973	52,646,520	30,427,968	57.71	10,311,193,608	82,700,147	0.80
1940.....	10,737,568,226	41,922,312	15,444,927	36.84	12,072,174,014	72,682,679	0.60

For footnotes, see end of table.

**2.—Fire Insurance by Companies Operating under Federal Registration,
Decennially 1880-1940 and Annually 1941-54—concluded**

Year	Amount in Force at End of Year	Net Premiums Written during Year	Net Claims Incurred during Year	Percent- age of Claims to Pre- miums	Gross Amount of Risks Taken during Year	Premiums Charged Thereon	Average Cost per \$100 of Insurance
	\$	\$	\$	p.c.	\$	\$	\$
1941.....	11,386,819,286	49,305,539	17,814,322	36-13	13,345,610,185	85,877,389	0-64
1942.....	12,565,212,694	47,272,440	20,360,534	43-07	12,759,419,939	84,168,663	0-66
1943.....	13,386,782,873	47,153,094	22,181,244	47-04	12,838,807,204	84,047,821	0-65
1944.....	14,174,130,630	55,027,051	28,921,930	52-56	14,572,876,024	96,065,279	0-66
1945.....	15,054,848,612	58,335,728	30,585,357	52-43	10,096,447,893 ³	72,872,125	0-72
1946.....	17,376,429,865	68,825,470	35,379,627	51-40	11,744,234,245 ³	82,696,662	0-70
1947.....	19,926,683,282	86,774,952	39,513,014	45-54	15,452,832,219 ³	106,427,978	0-69
1948.....	23,021,215,478	98,191,514	45,143,565	45-98	16,986,228,866 ³	119,222,396	0-70
1949.....	25,971,300,213	103,955,183	46,567,188	44-80	17,618,541,153 ³	129,711,596	0-74
1950.....	28,957,395,702	115,648,449	58,524,685	50-61	19,870,295,002 ³	143,661,997	0-72
1951.....	33,490,653,184	134,496,218	52,086,541	38-73	23,569,483,733 ³	166,791,056	0-71
1952.....	37,317,499,723	139,777,732	61,124,918	43-73	24,754,216,365 ³	172,398,726	0-70
1953.....	41,703,092,570	145,971,915	66,755,144	45-73	28,482,966,982 ³	189,037,552	0-66
1954.....	45,605,786,183	148,446,105	70,443,828	47-45	30,695,978,497 ³	195,933,814	0-64

¹ Net premiums received. ² Net claims paid. ³ Not comparable with 1944 and previous years since this figure indicates "Gross direct written", disregarding all reinsurance, assumed or ceded.

Premiums Written and Claims Incurred.—The relationship of claims incurred to premiums written is shown by province in Table 3 for fire insurance companies registered by the Federal Government.

3.—Net Premiums Written and Net Claims Incurred in Canada by Canadian, British and Foreign Companies Operating under Federal Registration by Province 1953 and 1954
(Registered reinsurance deducted)

Year and Province	Canadian Companies		British Companies		Foreign Companies	
	Premiums	Claims	Premiums	Claims	Premiums	Claims
	\$	\$	\$	\$	\$	\$
1953						
Newfoundland.....	280,089	95,036	1,152,327	424,381	425,810	201,594
Prince Edward Island.....	157,745	23,195	328,094	42,822	161,066	7,699
Nova Scotia.....	1,644,943	605,644	2,504,532	1,266,441	1,337,618	715,436
New Brunswick.....	1,218,919	461,919	2,224,638	987,300	1,332,557	621,338
Quebec.....	11,924,834	5,858,624	16,472,192	8,398,164	16,001,848	8,790,622
Ontario.....	17,041,598	7,306,536	18,994,615	10,214,979	20,685,389	9,655,838
Manitoba.....	3,174,584	1,465,176	2,150,468	1,501,734	2,269,822	1,212,376
Saskatchewan.....	3,309,364	861,317	1,477,536	325,979	1,879,268	567,374
Alberta.....	3,616,385	1,290,143	3,729,848	1,441,983	3,676,899	1,325,182
British Columbia.....	3,544,802	1,038,444	5,175,523	1,818,883	6,045,504	1,941,663
All other Canada ¹	331,549	—9,096	27,426	105,327	312,195	7,916
Canada, 1953.....	46,244,512	18,996,938	54,237,199	26,527,993	54,127,976	25,047,038
1954						
Newfoundland.....	318,288	165,585	1,059,331	561,294	395,335	259,937
Prince Edward Island.....	175,942	57,614	336,307	98,654	167,763	69,946
Nova Scotia.....	1,812,385	792,662	2,806,437	1,240,249	1,654,183	573,589
New Brunswick.....	1,258,270	443,090	2,265,021	862,049	1,367,243	750,353
Quebec.....	12,426,353	6,091,469	16,492,677	7,532,771	16,288,254	7,665,494
Ontario.....	17,228,210	8,710,153	18,675,853	9,402,327	19,838,540	9,855,685
Manitoba.....	3,428,303	2,110,315	2,535,995	2,041,126	2,560,953	2,612,553
Saskatchewan.....	3,407,729	1,284,693	1,673,848	552,222	2,118,687	888,214
Alberta.....	3,557,827	1,330,095	3,775,813	1,767,038	3,678,219	1,719,024
British Columbia.....	3,538,751	1,141,793	5,457,564	2,069,065	5,975,897	2,037,011
All other Canada ¹	91,924	—37,669	249,861	173,373	205,423	42,170
Canada, 1954.....	47,243,982	22,089,800	55,328,707	26,300,168	54,250,497	26,273,976

¹ Includes the Yukon and Northwest Territories, also certain 'float' business that cannot be apportioned to any one province.

Classification of Fire Risks.—The Department of Insurance compiles, from information supplied by the fire insurance companies registered to transact business in Canada, tables of experience as to premiums and claims by 21 classes of risks. The experience of 1952 and 1953 is given in Table 4.

4.—Percentage of Claims Incurred to Premiums Written in Canada by All Companies Operating under Federal Registration by Class of Risk 1952 and 1953

(Excluding all reinsurance ceded or assumed)

Class of Risk	1952	1953	Class of Risk	1952	1953
	p.c.	p.c.		p.c.	p.c.
Dwellings, excluding farms—			Lumber yards, pulpwood and standing timber	26.50	18.69
Protected brick.....	40.74	43.39	Wood-working plants.....	43.23	44.18
Protected frame.....	36.57	38.61	Metal-working plants, garages and hangars.....	45.52	49.58
Unprotected.....	42.40	40.78	Mining risks.....	19.07	46.19
Farm buildings.....	48.73	56.32	Railway and public utility risks.....	37.63	47.87
Churches, public buildings, educational and social service institutions.....	36.83	41.94	Miscellaneous manufacturing risks.....	54.15	63.45
Warehouses.....	39.10	50.50	Miscellaneous non-manufacturing risks	42.69	49.08
Retail stores, office buildings, banks and hotels.....	51.46	46.56	Sprinklered risks of whatever nature or occupancy.....	42.68	49.47
Contents of above item.....	45.17	48.28	Use and occupancy and profits, excluding rental insurance.....	34.85	64.96
Foods, food and beverage plants.....	71.56	26.59			
Flour and cereal mills, grain elevators.....	145.86	23.34			
Oil risks of all kinds.....	30.60	147.59			
Saw and shingle mills.....	45.12	32.77	Averages.....	45.59	46.27

Subsection 3.—Finances of Fire Insurance Companies under Federal Registration

Tables 5 to 7 show the assets, liabilities, income and expenditure of registered companies transacting fire insurance in Canada from 1950 to 1954. The majority of fire insurance companies also transact casualty insurance dealt with in Section 3 of this Chapter. Totals only are given here because it is impossible for such companies to allocate their assets and liabilities and their general income and expenditure among the various types of business transacted. Table 28, p. 1153, gives similar information for registered companies whose transactions are confined to casualty insurance.

5.—Assets of Canadian, British and Foreign Companies Transacting Fire Insurance or Fire and Casualty Insurance under Federal Registration 1950-54

Assets	1950	1951	1952	1953	1954
	\$	\$	\$	\$	\$
Canadian Companies (In All Countries)					
Real estate.....	2,890,580	4,995,436	5,593,805	6,255,956	6,503,225
Loans on real estate.....	4,503,686	4,638,405	5,246,897	5,807,459	6,318,841
Bonds, debentures and stocks.....	146,468,315	156,851,549	170,943,515	202,535,243	234,370,837
Agents' balances and premiums outstanding.....	15,864,962	18,047,447	20,311,328	23,925,966	22,089,460
Cash.....	17,768,620	20,292,975	25,163,593	26,096,937	24,849,452
Interest and rents.....	1,011,235	1,166,123	1,307,241	1,563,005	1,790,967
Other assets.....	9,985,911	9,571,384	12,567,762	13,695,597	14,929,457
Totals, Canadian Companies.....	198,493,309	215,563,319	241,134,141	279,880,163	310,852,239

5.—Assets of Canadian, British and Foreign Companies Transacting Fire Insurance or Fire and Casualty Insurance under Federal Registration 1950-51—concluded

Assets	1950	1951	1952	1953	1954
	\$	\$	\$	\$	\$
British Companies (In Canada)					
Real estate.....	961,944	1,181,210	1,194,861	1,926,911	2,170,271
Loans on real estate.....	164,226	302,606	432,799	555,487	606,046
Bonds, debentures and stocks.....	97,514,151	104,060,718	116,251,691	137,102,887	158,046,165
Agents' balances and premiums outstanding.....	12,954,003	14,205,780	16,505,580	18,093,533	18,044,605
Cash.....	13,221,377	15,711,722	17,393,338	16,390,340	16,057,530
Interest and rents.....	392,966	455,366	578,566	813,580	818,360
Other assets in Canada.....	2,372,038	2,264,071	4,221,756	3,393,573	3,930,411
Totals, British Companies.....	127,580,705	138,181,473	156,578,591	178,276,311	199,673,288
Foreign Companies (In Canada)					
Real estate.....	—	—	—	120,715	2,110,147
Loans on real estate.....	—	2,500	9,620	49,562	57,263
Bonds, debentures and stocks.....	78,612,365	97,101,459	103,138,393	115,086,150	139,851,824
Agents' balances and premiums outstanding.....	8,825,587	10,778,167	11,939,796	13,291,023	12,450,495
Cash.....	19,236,339	20,275,628	19,343,848	17,756,320	18,662,254
Interest and rents.....	454,347	617,072	730,838	855,602	1,132,964
Other assets in Canada.....	1,036,804	978,455	995,483	1,445,365	1,561,945
Totals, Foreign Countries.....	108,165,442	129,753,281	136,157,978	148,604,737	175,826,892

6.—Liabilities of Canadian, British and Foreign Companies Transacting Fire Insurance or Fire and Casualty Insurance under Federal Registration 1950-51

Liabilities	1950	1951	1952	1953	1954
	\$	\$	\$	\$	\$
Canadian Companies (In All Countries)					
Reserve for unsettled claims.....	28,705,334	33,587,225	39,243,044	46,360,141	52,184,491
Reserve of unearned premiums.....	54,957,195	61,181,368	72,835,541	84,143,924	89,004,119
Sundry items.....	30,700,595	34,251,492	38,447,531	45,012,011	50,327,042
Totals, Canadian Companies.....	114,363,124	129,020,085	150,526,116	175,516,076	191,515,652
Excess of assets over liabilities.....	84,130,185	86,543,234	90,608,025	104,364,087	119,336,587
Capital stock paid up.....	20,972,509	21,650,941	21,821,506	26,794,015	26,608,532
British Companies (In Canada)					
Reserve for unsettled claims.....	21,082,932	23,970,608	29,923,183	33,487,508	34,926,550
Reserve of unearned premiums.....	51,689,258	58,523,291	63,633,033	69,458,924	73,579,394
Sundry items.....	6,084,969	7,148,429	8,929,705	9,530,557	10,975,051
Totals, British Companies.....	78,857,159	89,642,328	102,485,921	112,476,989	119,480,995
Excess of assets over liabilities.....	48,723,546	48,539,145	54,092,670	65,799,322	80,192,293
Foreign Companies (In Canada)					
Reserve for unsettled claims.....	12,433,787	16,611,126	19,635,404	21,352,080	24,235,810
Reserve of unearned premiums.....	46,992,438	54,736,519	57,069,975	67,054,303	72,779,418
Sundry items.....	4,857,331	8,801,763	12,031,608	8,206,389	9,608,429
Totals, Foreign Companies.....	64,283,556	80,149,408	88,736,987	96,612,772	106,623,657
Excess of assets over liabilities, excluding capital.....	43,881,886	49,603,873	47,420,991	51,991,965	69,203,235

7.—Income and Expenditure of Canadian, British and Foreign Companies Transacting Fire Insurance or Fire and Casualty Insurance under Federal Registration 1950-54

Income and Expenditure	1950	1951	1952	1953	1954
	\$	\$	\$	\$	\$
INCOME					
Canadian Companies (In All Countries)					
Net premiums written, fire and other insurance....	94,957,384	108,123,353	130,971,373	150,232,977	155,187,056
Interest, dividends and rents earned.....	5,064,567	5,580,820	6,162,349	7,257,165	8,662,491
Sundry items.....	176,657	69,074	91,689	50,323	11,664
Totals, Canadian Companies.....	100,198,608	113,773,247	137,225,411	157,540,465	163,861,211
British Companies (In Canada)					
Net premiums written.....	84,262,573	95,563,249	104,718,151	114,579,615	119,786,767
Interest, dividends and rents earned.....	1,402,786	1,588,046	1,879,278	2,394,320	2,875,028
Sundry items.....	484	1,080	683	—1,966	3,151
Totals, British Companies.....	85,665,843	97,152,375	106,598,112	116,971,969	122,664,946
Foreign Companies (In Canada)					
Net premiums written.....	65,299,390	88,814,365	96,400,962	99,870,745	108,663,975
Interest, dividends and rents earned.....	1,897,135	2,390,403	2,841,987	3,074,211	3,681,599
Sundry items.....	15,541	1,858	306	4,490	24,606
Totals, Foreign Companies.....	67,212,066	91,206,626	99,243,255	103,949,446	112,370,180
EXPENDITURE					
Canadian Companies (In All Countries)					
Incurred for claims (fire).....	15,862,354	15,234,667	16,838,349	19,600,009	22,212,410
General expenses (fire).....	14,324,556	14,835,015	17,326,626	19,747,276	20,631,493
Incurred for claims (casualty).....	30,978,046	39,134,232	46,145,163	52,465,514	56,090,769
General expenses (casualty).....	21,840,069	26,733,771	31,377,886	35,337,754	39,195,328
Dividends or bonuses to shareholders.....	1,994,347	2,163,564	1,744,884	2,135,132	3,492,049
Premium taxes and fees.....	2,402,244	2,741,200	3,263,691	3,633,653	3,802,959
Income tax.....	1,573,799	2,666,768	3,023,178	4,093,395	6,527,586
Excess profits tax.....	1,064	—	—	—	—
Provincial corporation income tax.....	90,506	158,832	3,539	1,840	—362
Dividends to policyholders.....	238,828	337,463	423,210	510,326	683,657
British and foreign taxes.....	480,858	429,629	194,844	398,337	411,975
Totals, Canadian Companies.....	89,786,671	104,405,141	120,341,370	137,923,236	153,047,864
Excess of income over expenditure.....	10,411,937	9,368,106	16,884,041	19,617,229	10,813,347
British Companies (In Canada)					
Incurred for claims (fire).....	24,094,197	21,419,537	24,457,192	26,527,993	26,300,168
General expenses (fire).....	18,796,326	20,450,532	21,716,054	22,970,000	24,221,542
Incurred for claims (casualty).....	19,016,349	24,491,516	28,222,840	30,316,653	33,184,765
General expenses (casualty).....	14,634,521	17,565,922	19,924,643	21,853,236	23,669,220
Premium taxes and fees.....	2,165,783	2,456,255	2,645,281	2,864,731	2,968,115
Income tax.....	270,200	723,940	1,180,203	1,494,352	2,043,669
Excess profits tax.....	—787	—	—	—	—
Provincial corporation income tax.....	8,569	23,725	—1,411	—2,579	—
Totals, British Companies.....	78,985,158	87,131,427	98,144,802	106,024,386	112,387,479
Excess of income over expenditure.....	6,680,685	10,020,948	8,453,310	10,947,583	10,277,467

7.—Income and Expenditure of Canadian, British and Foreign Companies Transacting Fire Insurance or Fire and Casualty Insurance under Federal Registration 1950-54
—concluded.

Income and Expenditure	1950	1951	1952	1953	1954
EXPENDITURE—concl.	\$	\$	\$	\$	\$
Foreign Companies (In Canada)					
Incurred for claims (fire).....	21,777,434	19,050,759	23,728,023	25,047,048	26,273,976
General expenses (fire).....	16,120,209	18,385,823	19,317,717	21,162,232	22,595,036
Incurred for claims (casualty).....	9,498,697	19,270,657	23,253,049	25,659,436	29,812,805
General expenses (casualty).....	7,048,391	11,810,013	13,805,059	15,260,850	20,327,921
Premium taxes and fees.....	1,708,675	2,226,447	2,330,267	2,466,150	2,708,901
Income tax.....	444,131	1,184,098	1,237,088	807,381	1,888,543
Excess profits tax.....	—	—	—	—	—
Provincial corporation income tax.....	41,079	39,303	—1,571	—197	—363
Dividends or savings credited to subscribers.....	3,435,151	5,269,798	5,264,013	1,243,501	1,490,876
Totals, Foreign Companies.....	60,073,767	77,236,898	88,933,645	91,646,401	105,097,695
Excess of income over expenditure.....	7,138,299	13,969,728	10,309,610	11,303,045	7,272,485

Subsection 4.—Fire Losses

The information in Tables 8 to 11, which deals with the loss of property and life caused by fire, has been summarized from the *Statistical Bulletin* of the Association of Canadian Fire Marshals and the Dominion Fire Prevention Association prepared by the Dominion Fire Commissioner. Federal and other property losses not included in these figures amounted to \$7,804,914 in 1954 from 2,760 fires.

8.—Statistics of Fire Losses 1943-54

NOTE.—Figures for 1926-42 are given in the 1947 Year Book, p. 1078. Earlier figures from 1898 may be obtained from the Department of Insurance.

Year	Fires Reported	Property Loss ¹	Loss per Capita	Deaths by Fire	Year	Fires Reported	Property Loss ¹	Loss per Capita	Deaths by Fire
	No.	\$	\$	No.		No.	\$	\$	No.
1943.....	47,594	31,464,710	2.67	319	1949.....	54,500	65,159,044	4.94	542
1944.....	50,719	40,562,478	3.39	307	1950 ²	59,710	81,525,298	5.88	441
1945.....	52,173	41,903,020	3.46	391	1951.....	60,317	76,919,357	5.64	535
1946.....	55,400	49,413,363	4.01	408	1952.....	64,057	80,690,123	5.74	572
1947.....	52,931	57,050,461	4.53	390	1953.....	67,519	84,270,896	5.70	477
1948.....	53,048	67,144,473	5.21	493	1954.....	68,620	91,345,728	6.01	479

¹ Excludes federal jurisdiction losses, including forests.

² Newfoundland included for 1950 only.

The provincial property losses for 1951-54 given in Table 9 include both insured and uninsured losses. The percentages of the provincial totals uninsured in 1954 were: Prince Edward Island 48; Nova Scotia 28; New Brunswick 29; Quebec 20; Ontario 13; Manitoba 17; Saskatchewan 13; Alberta 37; British Columbia 48; and the Yukon and Northwest Territories 22. Uninsured losses formed 22 p.c. of total losses for Canada.

9.—Fire Losses by Province 1951-54

Province or Territory	1951	1952	1953	1954		
	Property Loss ¹			Fires Reported	Property Loss ¹	Loss per Capita ²
	\$	\$	\$	No.	\$	\$
Newfoundland.....				..	..	..
Prince Edward Island.....	725,893	475,265	231,616	358	452,644	4.31
Nova Scotia.....	4,547,955	2,097,216	2,957,326	1,787	2,892,511	4.30
New Brunswick.....	2,865,881	3,320,340	2,993,167	2,055	2,683,195	4.91
Quebec.....	25,933,975	26,774,705	31,676,545	28,203	28,926,095	6.59
Ontario.....	23,241,177	27,615,682	25,882,184	22,401	29,275,559	5.80
Manitoba.....	2,377,092	2,667,303	4,279,618	2,143	5,827,145	7.04
Saskatchewan.....	2,776,614	3,525,799	2,372,885	1,817	3,125,924	3.56
Alberta.....	4,661,963	4,545,444	5,652,339	2,574	7,657,085	7.37
British Columbia.....	8,604,426	9,603,231	8,080,490	7,094	10,177,702	8.04
Yukon and N.W.T.....	1,184,381	65,138	144,726	188	327,868	12.14
Canada	76,919,357	80,690,123	84,270,896	68,620	91,345,728	6.01

¹ Excludes federal jurisdiction losses, including forests.
at p. 151.

² Based on official estimates of population given

10.—Fire Losses by Type of Property 1952-54

(Exclusive of Newfoundland)

Type of Property	1952		1953		1954	
	Fires Reported	Property Loss	Fires Reported	Property Loss	Fires Reported	Property Loss
	No.	\$	No.	\$	No.	\$
Residential.....	47,732	18,387,258	45,350	17,775,863	50,053	19,715,956
Mercantile.....	6,756	23,969,142	6,265	20,203,222	6,823	24,498,604
Farm.....	1,367	13,471,727	4,316	6,852,856	4,580	6,971,345
Manufacturing.....	3,685	6,036,451	1,036	15,254,972	1,171	11,863,899
Institutional and assembly.....	715	4,197,097	827	2,908,444	893	5,558,156
Miscellaneous.....	3,802	14,628,448	9,725	21,275,539	5,100	22,737,768
Totals.....	64,057	80,690,123	67,519	84,270,896	68,620	91,345,728

11.—Value of Property Loss by Reported Cause of Fire 1952-54

(Exclusive of Newfoundland)

Reported Cause	1952		1953		1954	
	Fires Reported	Property Loss	Fires Reported	Property Loss	Fires Reported	Property Loss
	No.	\$	No.	\$	No.	\$
Smokers' carelessness.....	24,080	3,656,246	26,701	4,074,463	27,152	5,633,455
Stoves, furnaces, boilers and smoke pipes.....	6,221	4,404,263	6,156	4,861,335	6,379	5,588,714
Electrical wiring and appliances.....	5,585	10,772,833	5,768	8,994,851	6,074	10,388,088
Matches.....	2,466	957,104	2,480	1,347,408	2,513	830,381
Defective and overheated chimneys and flues.....	2,407	2,121,604	2,352	1,957,689	2,517	2,414,477
Hot ashes, coals and open fires.....	2,141	2,017,627	1,560	1,684,169	2,177	1,651,821
Petroleum and its products.....	1,357	3,017,787	2,021	2,119,905	2,047	3,063,351
Lights, other than electric.....	1,188	1,135,813	1,267	934,577	1,316	1,462,033
Lightning.....	1,403	913,653	1,904	1,293,879	2,045	1,750,257
Sparks on roofs.....	707	499,239	491	627,060	470	364,170
Exposure fires.....	608	1,236,021	494	746,803	495	1,102,622
Spontaneous ignition.....	416	2,233,477	360	1,436,377	298	1,142,136
Incendiarism.....	282	1,363,519	448	1,747,956	299	1,556,006
Miscellaneous known causes (explosions, fireworks, friction, hot grease or metal, steam and hot water pipes, etc.).....	7,353	6,039,108	7,442	7,138,855	6,589	8,461,008
Unknown.....	7,843	40,321,829	8,075	44,805,569	8,249	45,937,209
Totals.....	64,057	80,690,123	67,519	84,270,896	68,620	91,345,728

Section 2.—Life Insurance*

Life insurance in force in Canada in companies registered by the Federal Government (exclusive of fraternal benefit societies) was over \$23,134,000,000 at the end of 1954, an increase of over \$1,907,000,000 during the year. The ratio of gain in business in force expressed as a percentage of the amount in force at the beginning of the same year, which had shown an advancing trend from 1951 to 1953, dropped in 1954 to the lowest level since the end of World War II.

Year	In Force at Beginning of Year	Increase in Force for the Year	Per- centage Gain
	\$	\$	
1930.....	6,157,000,000	335,000,000	5.4
1935.....	6,221,000,000	38,000,000	0.6
1940.....	6,776,000,000	199,000,000	2.9
1945.....	9,139,000,000	612,000,000	6.7
1946.....	9,751,000,000	1,061,000,000	10.9
1947.....	10,812,000,000	1,088,000,000	10.1
1948.....	11,900,000,000	1,205,000,000	10.1
1949.....	13,105,000,000	1,303,000,000	9.9
1950.....	14,409,000,000	1,337,000,000	9.3
1951.....	15,746,000,000	1,490,000,000	9.5
1952.....	17,236,000,000	1,855,000,000	10.8
1953.....	19,091,000,000	2,136,000,000	11.2
1954 ^a	21,227,000,000	1,907,000,000	9.0

* All the amounts given in the tables of this Section are net amounts after deduction of reinsurance ceded.

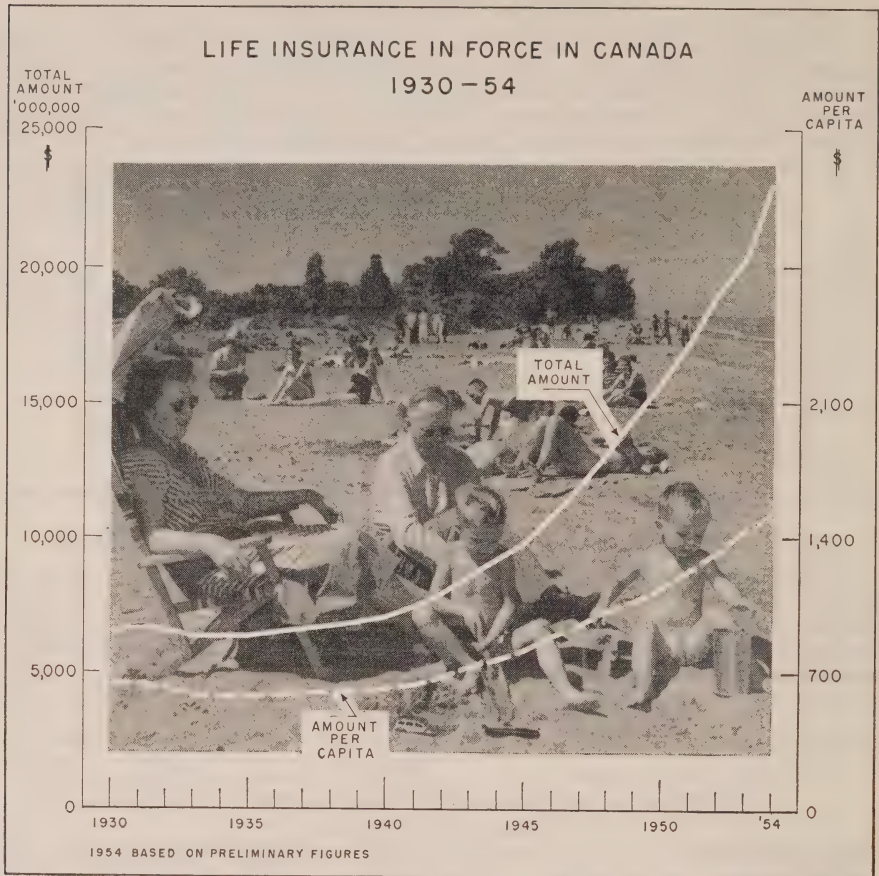
Subsection 1.—Total Registered Life Insurance in Force in Canada

In addition to the business transacted by life insurance companies registered by the Federal Government, a considerable volume of business is also transacted by companies licensed by the provinces. Table 12 summarizes the volume of business transacted in Canada by Canadian, British and foreign life insurance companies and fraternal societies, whether registered by the Federal Government or licensed by the provinces.

12.—Life Insurance Transacted in Canada 1954^a

Business Transacted by—	Insurance Premiums	Claims ¹	New Policies Effectuated	Insurance in Force, Dec. 31
	\$	\$	\$	\$
Federal Registrations.....	492,724,797	158,379,492	2,705,236,224	23,481,238,631
Life companies.....	486,396,759	154,236,765	2,656,507,636	23,133,695,025
Fraternal societies.....	6,328,038	4,142,727	48,728,588	347,543,606
Provincial Licences.....	27,842,856	8,932,337	280,919,279	1,290,183,490
Provincial Companies within Province by which they are Incorporated—				
Life companies.....	16,992,734	4,259,389	196,414,288	811,038,511
Fraternal societies.....	6,383,185	2,772,022	46,146,117	277,200,589
Provincial Companies in Provinces other than those by which they are Incorporated—				
Life companies.....	2,354,074	576,644	20,352,957	94,627,831
Fraternal societies.....	2,112,863	1,324,282	18,005,917	107,316,559
Grand Totals.....	520,567,653	167,311,829	2,986,155,503	24,771,422,121
Canadian Life Companies—				
Federal.....	325,129,646	104,473,434	1,822,846,680	15,764,893,293
Provincial.....	19,346,808	4,836,033	216,767,245	905,666,342
Canadian Fraternal Societies—				
Federal.....	2,895,525	2,410,904	33,129,586	203,899,002
Provincial.....	8,496,048	4,096,304	64,152,034	384,517,148
British life companies.....	14,150,968	3,931,416	104,253,783	596,756,619
Foreign life companies.....	147,116,145	45,831,915	729,407,173	6,772,045,113
Foreign fraternal societies.....	3,432,513	1,731,823	15,599,002	143,644,604

¹ Death, disability and maturity of insurance and annuity contracts.



Subsection 2.—Operational Statistics of Life Insurance Companies under Federal Registration

The amount of life insurance in force in Canada has shown an almost continuous advance year by year since the beginning of the record in 1869. The amount per capita of the estimated population has almost doubled since 1944—evidence of the general recognition of the value of life insurance for the adequate protection of dependants against misfortune. During 1954 life insurance business was transacted in Canada by 66 active companies having federal registration, including 31 Canadian, six British and 29 foreign companies. In addition there were seven British and three foreign companies which wrote no new insurance during the year, their business being confined to policies already on their books. One foreign company registered in 1954 had written no business in Canada.

The operations analysed in the tables of this Subsection, with the exception of Table 17, include only those companies under federal registration and are exclusive of fraternal organizations and provincial licencees. However as indicated in Table 12 operations of the companies included account for 93.4 p.c. of the life insurance in force in Canada.

13.—Life Insurance in Force and Effected in Canada by Companies under Federal Registration, Decennially 1880-1940 and Annually 1941-54

NOTE.—Figures for 1889-1900 are given at p. 958 of the 1938 Year Book, and for 1901-39 at p. 855 of the 1942 edition. Statistics of fraternal society insurance, excluded here, are given at pp. 1145-1149.

Year	Insurance in Force Dec. 31				Insurance in Force per Capita ¹	New Insurance Effected during Year
	Canadian Companies	British Companies	Foreign Companies	Total		
	\$	\$	\$	\$	\$	\$
1880.....	37,838,518	19,789,863	33,643,745	91,272,126	21.45	13,906,887
1890.....	135,218,990	31,613,730	81,591,847	248,424,567	51.98	39,802,956
1900.....	267,151,086	39,485,344	124,433,416	431,069,846	81.32	67,729,115
1910.....	565,667,110	47,816,775	242,629,174	856,113,059	122.51	150,785,305
1920.....	1,664,348,605	76,883,090	915,793,798	2,657,025,493	310.55	630,110,900
1930.....	4,319,370,209	117,410,860	2,055,502,125	6,492,283,194	636.00	884,749,748
1940.....	4,609,213,977	145,603,299	2,220,505,184	6,975,322,460	612.89	590,205,536
1941.....	4,835,925,659	145,597,309	2,367,027,774	7,348,550,742	638.62	688,344,283
1942.....	5,184,568,369	152,289,487	2,538,897,449	7,875,755,305	675.80	818,558,946
1943.....	5,586,515,285	162,287,617	2,785,290,816	8,534,093,718	723.53	887,522,851
1944.....	6,001,984,634	171,997,834	2,965,501,763	9,139,484,231	765.07	900,501,491
1945.....	6,440,615,383	183,779,511	3,126,645,941	9,751,040,835	807.74	1,002,576,955
1946.....	7,201,285,815	205,626,216	3,405,480,833	10,812,392,864	879.63	1,393,522,667
1947.....	7,964,185,291	238,614,767	3,697,458,162	11,900,258,220	948.15	1,453,255,487
1948.....	8,830,952,866	270,105,626	4,004,294,358	13,105,352,850	1,022.02	1,504,248,947
1949.....	9,808,084,850	306,032,801	4,294,644,199	14,408,761,850	1,071.52	1,636,356,612
1950.....	10,756,249,942	342,878,530	4,646,707,595	15,745,836,067	1,148.33	1,798,864,211
1951.....	11,807,992,826	391,382,883	5,036,207,593	17,235,583,302	1,230.32	1,990,926,006
1952.....	13,085,349,418	443,275,711	5,562,003,368	19,090,628,497	1,322.98	2,287,264,465
1953.....	14,526,740,295	519,137,847	6,181,027,477	21,226,905,619	1,436.09	2,551,393,073
1954 ^p	15,764,893,293	596,756,619	6,772,045,113	23,133,695,025	1,522.45	2,656,507,636

¹ Based on official estimates of population given at p. 151.

14.—Life Insurance Transacted in Canada by Companies under Federal Registration 1952-54

Year and Nationality of Company	Policies Effected		Policies in Force Dec. 31		Insurance Premiums	Claims ¹
	No.	Amount	No.	Amount		
		\$		\$	\$	\$
1952						
Canadian.....	339,309	1,540,321,407	4,213,176	13,085,349,418	281,787,521	86,601,441
British.....	15,729	74,055,180	165,664	443,275,711	10,296,873	2,999,725
Foreign.....	362,194	672,887,878	4,984,719	5,562,003,368	130,613,829	40,415,685
Totals, 1952.....	717,232	2,287,264,465	9,363,559	19,090,628,497	422,698,223	130,016,851
1953						
Canadian.....	346,505	1,751,620,418	4,350,926	14,526,740,295	303,126,677	90,756,869
British.....	17,741	98,437,715	173,508	519,137,847	12,309,612	3,365,517
Foreign.....	367,743	701,334,940	5,046,618	6,181,027,477	139,326,718	42,625,854
Totals, 1953.....	731,989	2,551,393,073	9,571,052	21,226,905,619	454,763,007	136,748,240
1954^p						
Canadian.....	347,050	1,822,846,680	4,469,146	15,764,893,293	325,129,646	104,473,434
British.....	19,373	104,253,783	182,015	596,756,619	14,150,968	3,931,416
Foreign.....	352,531	729,407,173	5,130,623	6,772,045,113	147,116,145	45,831,915
Totals, 1954^p.....	718,954	2,656,507,636	9,781,784	23,133,695,025	486,396,759	154,236,765

¹ Death, disability and maturity of insurance policies for 1952 and 1953; insurance and annuity contracts for 1954.

15.—Summary of Life Insurance Business 1952-54

Item		1952	1953	1954 ^p
Canadian Companies—				
New policies effected during year.....	No.	339,309	346,505	347,050
	\$	1,540,321,407	1,751,620,418	1,822,846,680
Policies in force Dec. 31.....	No.	4,213,176	4,350,926	4,469,146
	\$	13,085,349,418	14,526,740,295	15,764,893,293
Policies ceased by death or maturity.....	No.	34,216	34,188	36,519
	\$	84,608,862	89,810,901	98,514,809
Insurance premiums.....	\$	281,787,521	303,126,677	325,129,646
Claims incurred ¹	\$	86,601,441	90,756,869	104,473,434
British Companies—				
New policies effected during year.....	No.	15,729	17,741	19,373
	\$	74,055,180	98,437,715	104,253,783
Policies in force Dec. 31.....	No.	165,664	173,508	182,015
	\$	443,275,711	519,137,847	596,756,619
Policies ceased by death or maturity.....	No.	2,474	2,497	2,632
	\$	3,075,399	3,475,277	3,486,350
Insurance premiums.....	\$	10,296,873	12,309,612	14,150,968
Claims incurred ¹	\$	2,999,725	3,365,517	3,931,416
Foreign Companies—				
New policies effected during year.....	No.	362,194	367,743	352,531
	\$	672,887,878	701,334,940	729,407,173
Policies in force Dec. 31.....	No.	4,984,719	5,046,618	5,130,623
	\$	5,562,003,368	6,181,027,477	6,772,045,113
Policies ceased by death or maturity.....	No.	59,666	59,056	58,792
	\$	37,657,765	40,559,008	42,570,692
Insurance premiums.....	\$	130,613,829	139,326,718	147,116,145
Claims incurred ¹	\$	40,415,685	42,625,854	45,831,915
All Companies—				
New policies effected during year.....	No.	717,232	731,989	718,954
	\$	2,287,264,465	2,551,393,073	2,656,507,636
Policies in force Dec. 31.....	No.	9,363,559	9,571,052	9,781,784
	\$	19,090,628,497	21,226,905,619	23,133,695,025
Policies ceased by death or maturity.....	No.	96,356	95,741	97,943
	\$	125,342,026	133,845,186	144,571,851
Insurance premiums.....	\$	422,698,223	454,763,007	486,396,759
Claims incurred ¹	\$	130,016,851	136,748,240	154,236,765

¹ Death, disability and maturity of insurance policies for 1952 and 1953; insurance and annuity contracts for 1954

16.—Ordinary and Industrial Life Insurance Policies in Force and Effected in Canada by Companies under Federal Registration 1954^p

Type of Policy and Nationality of Company	New Policies Effected			Policies in Force Dec. 31		
	No.	Amount	Average Amount of a Policy	No.	Amount	Average Amount of a Policy
		\$	\$		\$	\$
Ordinary Policies—						
Canadian.....	297,096	1,484,564,320	4,997	3,799,891	11,835,004,251	3,115
British.....	19,357	102,815,690	5,312	139,467	563,718,425	4,042
Foreign.....	159,331	499,993,511	3,138	1,845,598	3,691,095,448	2,000
Industrial Policies—						
Canadian.....	48,902	53,803,881	1,100	660,940	560,932,462	849
British.....	—	—	—	42,467	6,209,013	146
Foreign.....	192,241	91,081,906	474	3,279,176	1,137,994,970	347

17.—Insurance Death Rates in Canada 1952 and 1953

Type of Insurer	1952			1953		
	Policies Exposed to Risk	Policies Terminated by Death	Death Rate per 1,000	Policies Exposed to Risk	Policies Terminated by Death	Death Rate per 1,000
	No.	No.		No.	No.	
All companies, ordinary.....	5,268,296	27,741	5.3	5,481,035	29,131	5.3
All companies, industrial.....	4,018,506	31,089	7.7	4,005,514	30,707	7.7
Fraternal benefit societies.....	330,735	3,805	11.5	343,174	3,858	11.2
Totals.....	9,617,537	62,635	6.5	9,829,723	63,696	6.5

Subsection 3.—Finances of Life Insurance Companies under Federal Registration

The financial statistics of Tables 18 and 19 cover only life insurance companies under federal registration and do not include fraternal organizations and provincial licencees. The figures for British and foreign companies apply to their assets, liabilities, and operations in Canada only but assets and liabilities, income and expenditure of Canadian companies arise in part from business abroad.

18.—Total Assets and Liabilities of Canadian Life Insurance Companies under Federal Registration and Assets and Liabilities in Canada of British and Foreign Life Insurance Companies 1952-54.

Assets and Liabilities	1952	1953	1954 ^a
Canadian Companies¹	\$	\$	\$
Assets².....	5,206,962,405	5,568,185,811	5,872,364,226
Bonds.....	3,218,455,810	3,352,166,696	3,371,698,651
Stocks.....	295,133,624	301,619,280	331,818,541
Mortgage loans on real estate.....	1,131,090,247	1,311,912,475	1,575,364,269
Agreements of sale of real estate.....	5,510,182	4,651,428	4,636,000
Real estate.....	97,665,484	109,639,663	135,813,559
Collateral loans.....	781,977	6,076	24,652
Policy loans.....	251,369,119	269,922,728	286,752,514
Cash.....	64,527,802	60,608,269	52,330,872
Investment income, due and accrued.....	44,911,936	49,750,316	52,592,894
Outstanding insurance premiums and annuity considerations ³	92,577,687	101,082,828	52,918,176
Other assets.....	4,938,537	6,826,052	8,414,098
Liabilities.....	4,955,861,977	5,296,807,418	5,565,309,893
Actuarial reserve for contracts in force.....	4,163,950,805	4,454,662,317	4,681,963,478
Outstanding claims under contracts.....	37,535,217	38,674,743	47,240,716
Sundry liabilities.....	754,375,955	803,470,358	836,105,699
Excess of assets over liabilities other than capital.....	251,100,428	271,378,393	294,328,523
Capital stock paid up.....	12,616,250	12,723,460	12,725,810
British Companies			
Assets⁴.....	169,843,371	195,638,164	235,487,744
Bonds.....	113,359,830	124,123,965	152,966,268
Stocks.....	24,004,742	27,058,292	34,910,432
Mortgage loans on real estate.....	21,971,458	31,771,371	33,780,769
Agreements of sale of real estate.....	—	324,884	—
Real estate.....	2,641,780	3,020,861	2,972,220
Collateral loans.....	—	—	—
Policy loans.....	3,632,317	3,942,106	4,370,372
Cash.....	2,538,989	2,740,553	4,441,598
Investment income, due and accrued.....	648,691	752,823	839,383
Outstanding insurance premiums and annuity considerations ³	1,043,095	1,891,838	1,099,743
Other assets.....	2,469	11,471	106,959
Liabilities.....	147,686,730	169,683,571	194,760,332
Actuarial reserve for contracts in force.....	144,634,097	166,483,204	191,060,034
Outstanding claims under contracts.....	934,761	1,001,958	1,038,304
Sundry liabilities.....	2,117,872	2,198,409	2,661,994
Excess of assets over liabilities in Canada.....	22,156,641	25,954,593	40,727,412

For footnotes, see end of table.

18.—Total Assets and Liabilities of Canadian Life Insurance Companies under Federal Registration and Assets and Liabilities in Canada of British and Foreign Life Insurance Companies 1952-54—concluded.

Assets and Liabilities	1952	1953	1954 ^a
	\$	\$	\$
Foreign Companies			
Assets^c	1,069,978,951	1,141,336,468	1,223,827,893
Bonds.....	841,154,851	883,408,914	970,071,346
Stocks.....	—	780,000	802,500
Mortgage loans on real estate.....	122,090,945	147,567,354	166,152,087
Agreements of sale of real estate.....	—	—	—
Real estate.....	1,409,635	1,412,754	1,129,513
Collateral loans.....	—	—	—
Policy loans.....	51,486,848	53,692,280	56,982,533
Cash.....	22,237,839	20,365,845	10,767,627
Investment income, due and accrued.....	11,008,518	11,812,961	12,412,856
Outstanding insurance premiums and annuity considerations ^b	20,529,924	22,257,090	5,475,352
Other assets.....	60,391	39,270	34,079
Liabilities	981,373,618	1,038,253,517	1,082,947,148
Actuarial reserve for contracts in force.....	909,626,409	961,360,408	1,001,376,185
Outstanding claims under contracts.....	4,863,990	5,419,341	7,778,056
Sundry liabilities.....	66,883,219	71,473,768	73,792,907
Excess of assets over liabilities in Canada.....	88,605,333	103,082,951	140,880,745

¹ A detailed classification of assets of Canadian companies will be found in the *Report of the Superintendent of Insurance, Vol. II.* ² At book values. The liabilities include a reserve equal to the amount, if any, by which the total book value of bonds, stocks and real estate exceeds the total market value (or amortized value where applicable). ³ Deferred premiums and considerations are included in these amounts for 1952 and 1953. For 1954 they were deducted from the actuarial reserve. ⁴ At market values.

19.—Total Revenue and Expenditure of Canadian Life Insurance Companies under Federal Registration and Revenue and Expenditure in Canada of British and Foreign Life Insurance Companies 1952-54.

NOTE.—In 1954 the method of presenting revenue and expenditure of Canadian life insurance companies was revised so that direct comparison with earlier years is not possible. The statement form shown in the table for 1954 will be used in subsequent years and comparable figures for the two previous years are given as far as possible.

Principal Items	1952	1953	1954 ^a
	\$	\$	\$
Canadian Companies			
Revenue	865,862,089	932,073,775	920,489,874
Insurance premiums and annuity considerations.....	573,525,941	622,870,766	668,548,789
Amounts left on deposit.....	59,670,149	60,520,936	¹
Investment income.....	190,075,507	210,749,658	224,147,988 ²
Gross capital gain realized on investments.....	16,503,857	11,437,894	¹
Other.....	26,086,635	26,494,521	27,793,097
Expenditure	545,867,103	580,879,354	875,468,617
Claims incurred.....	262,992,282	280,382,769	306,238,772
Normal increase in actuarial reserve.....	¹	¹	292,473,854
Amounts on deposit withdrawn.....	58,487,408	60,086,316	¹
Taxes, licences and fees.....	12,869,489	14,207,514	16,334,651 ²
Commissions and general expenses.....	132,137,978	142,335,287	138,425,018 ²
Gross capital loss realized on investments.....	6,797,409	4,946,886	¹
Other.....	18,539,292	20,866,156	45,739,065 ³
Dividends to shareholders.....	2,333,499	2,448,852	¹
Dividends to policyholders.....	51,709,746	55,605,574	63,446,875
Increase in provision for profits to policyholders.....	¹	¹	12,810,382
Analysis of Increase in Surplus—			
Excess of revenue over expenditure.....			45,021,257
Net capital gain on investments.....			1,740,423
Other credits to surplus (net).....			2,414,997
Net increase in special reserves.....	¹	¹	-3,449,194
Special increase in actuarial reserve.....			-14,922,592
Dividends to shareholders.....			-2,525,088
Increase in surplus (policyholders and shareholders).....			28,279,803

For footnotes, see end of table.

19.—Total Revenue and Expenditure of Canadian Life Insurance Companies under Federal Registration and Revenue and Expenditure in Canada of British and Foreign Life Insurance Companies 1952-54—concluded.

Principal Items	1952	1953	1954 ^p
	\$	\$	\$
British Companies			
Revenue	31,434,842	36,644,860	44,121,219
Insurance premiums and annuity considerations.....	25,315,777	29,464,270	35,561,349
Investment income.....	5,487,935	6,617,333	8,022,479
Sundry items.....	631,130	563,257	537,391
Expenditure	12,848,929	15,510,188	18,204,617
Claims incurred.....	7,272,697	8,410,004	9,586,297
Taxes, licences and fees.....	190,207	241,554	344,160
Commissions and general expenses.....	4,585,629	5,316,439	6,157,073
Other expenditure.....	452,406	346,789	691,838
Dividends to policyholders.....	347,990	1,195,402	1,425,249
Excess of revenue over expenditure.....	18,585,913	21,134,672	25,916,602
Foreign Companies			
Revenue	181,555,934	193,030,511	207,100,414
Insurance premiums and annuity considerations.....	137,282,140	145,417,693	154,991,332
Investment income.....	36,514,475	40,480,228	44,420,119
Sundry items.....	7,759,319	7,132,590	7,688,963
Expenditure	118,773,797	126,427,659	136,516,050
Claims incurred.....	60,818,142	64,339,065	69,778,613
Taxes, licences and fees.....	2,101,564	2,626,693	3,092,879
Commissions and general expenses.....	32,684,209	33,980,229	36,097,390
Other expenditure.....	7,284,656	7,949,145	7,599,139
Dividends to policyholders.....	15,885,226	17,532,527	19,948,029
Excess of revenue over expenditure.....	62,782,137	66,602,852	70,584,364

¹ See headnote to table.
recorded as expenditure.

² Excluding investment taxes and investment expenses which were formerly
³ Including items not previously recorded as expenditure.

Subsection 4.—Life Insurance Effected through Fraternal Benefit Societies

In addition to life insurance some fraternal benefit societies grant other insurance benefits to members, notably sickness benefits, but these are relatively unimportant. Table 20 gives statistics of life insurance effected through fraternal benefit societies by Canadian members, together with statistics of assets, liabilities, income and expenditure relating to all business of Canadian societies and to the business in Canada of foreign societies. The rates charged by these societies are computed to be sufficient to provide the benefits granted, having regard for actuarial principles. The benefit funds of each society must be valued annually by a qualified actuary (Fellow, by examination, of the Institute of Actuaries of Great Britain, of the Faculty of Actuaries in Scotland, or of the Society of Actuaries) and a readjustment of rates or benefits must be made, unless the actuary certifies to the solvency of each fund. The statistics of the first section of Table 20 relate to the 17 Canadian societies reporting to the Department of Insurance of the Federal Government, of which only one does not grant life insurance benefits.

Under an amendment to the Insurance Act, effective Jan. 1, 1920, all foreign fraternal benefit societies were required to obtain authority from the Federal Government prior to transacting business in Canada. However any such societies which at that date were transacting business under provincial licences, though forbidden to accept new members, were permitted to continue all necessary transactions in respect of insurance already in force. Most of these societies and some foreign societies that had not previously been licensed by the provinces have since obtained federal authority to transact business. Of both classes of societies 32 transacted business in Canada during 1954; two of the societies do not grant life insurance benefits.

**20.—Life Insurance in Canada of Fraternal Benefit Societies reporting to the
Federal Department of Insurance 1952-54**

Item	1952	1953	1954 ^p
Canadian Societies¹			
Summary—			
Premium income.....	\$ 2,553,716	2,869,399	2,895,525
Benefits paid.....	\$ 2,972,682	3,126,373	3,212,950
New certificates effected.....	No. 24,241	24,085	24,414
Certificates in force Dec. 31.....	No. 30,484,585	32,474,603	33,129,586
	\$ 197,125	203,386	214,070
Certificates ceased as claims.....	No. 175,416,375	188,322,239	203,899,002
	\$ 2,884	2,973	2,994
	\$ 2,412,465	2,475,311	2,532,497
	\$	\$	\$
Assets.....	99,611,144	102,923,860	107,080,832
Real estate.....	2,862,557	3,717,680	5,008,479
Real estate held under agreements of sale.....	1,316,075	757,249	731,514
Loans on real estate.....	9,674,176	10,169,873	10,539,670
Policy loans and liens.....	3,876,709	3,924,045	4,016,226
Bonds, debentures and stocks.....	78,340,965	80,920,594	83,085,519
Cash.....	1,882,348	1,894,937	1,758,585
Interest and rent due or accrued.....	703,561	733,793	735,695
Outstanding and deferred premiums and contributions.....	724,897	567,299	889,617
Other.....	229,856	243,590	315,527
Liabilities.....	91,577,889	94,275,301	95,502,692
Reserve under contracts in force.....	80,066,022	82,608,753	85,079,401
Outstanding claims.....	417,080	359,541	439,460
Other.....	11,094,787	11,307,007	9,983,831
Income.....	13,920,101	14,997,580	16,991,041
Premiums.....	5,202,228	5,848,664	6,060,689
Received for expense purposes.....	4,507,420	4,933,853	5,624,883
Interest and rents.....	3,481,179	3,705,123	3,954,033
Other.....	729,274	509,940	1,351,436
Expenditure.....	10,703,024	11,350,832	12,539,219
Benefits paid under certificates.....	5,992,478	6,132,795	6,601,829
Expenses.....	4,581,294	5,005,500	5,752,936
Other disbursements.....	129,252	212,537	184,454
Excess of income over expenditure.....	3,217,077	3,646,748	4,451,822
Foreign Societies			
Summary—			
Premium income.....	\$ 3,286,649	3,406,965	3,432,513
Benefits paid.....	\$ 2,939,245	2,360,104	2,538,683
New certificates effected.....	No. 8,959	9,852	8,734
	\$ 13,019,897	15,642,822	15,599,002
Certificates in force Dec. 31.....	No. 114,603	118,632	119,360
	\$ 131,212,535	138,806,506	143,644,604
Certificates ceased as claims.....	No. 1,791	1,439	1,416
	\$ 2,137,651	1,597,818	1,596,093
	\$	\$	\$
Assets.....	33,011,568	36,063,738	40,252,438
Real estate.....	—	—	952,595
Loans on real estate.....	334,183	306,625	317,475
Policy loans and liens.....	1,832,897	1,967,868	2,139,735
Bonds, debentures and stock.....	29,155,658	32,093,841	34,819,890
Cash.....	1,179,572	1,157,146	1,381,386
Interest and rent due or accrued.....	283,545	317,563	317,329
Outstanding and deferred premiums and contributions.....	211,983	220,695	324,028
Other.....	13,730	—	—

¹ Includes business outside Canada.

**20.—Life Insurance in Canada of Fraternal Benefit Societies reporting to the
Federal Department of Insurance 1952-54—concluded**

Item	1952	1953	1954 ^a
Foreign Societies—concluded			
Liabilities	30,217,845	31,888,641	33,746,010
Reserve under contracts in force.....	27,620,769	29,023,375	30,684,534
Outstanding claims.....	468,218	541,398	518,519
Other.....	2,128,858	2,323,868	2,542,957
Income	7,370,972	7,795,102	8,131,569
Premiums.....	4,558,659	4,802,625	4,956,239
Received for expense purposes.....	1,205,120	1,323,862	1,313,999
Interest and rents.....	1,024,321	1,119,236	1,249,835
Other.....	582,872	549,379	611,496
Expenditure	4,932,021	4,453,778	4,791,518
Benefits paid under certificates.....	3,683,146	3,149,806	3,435,989
Expenses.....	784,917	824,826	888,492
Other disbursements.....	463,958	479,146	467,037
Excess of income over expenditure.....	2,438,951	3,341,324	3,340,051

**Subsection 5.—Life Insurance in Force Outside Canada by Registered
Canadian Companies**

Tables 21 and 22 give summary statistics of insurance in force as at Dec. 31, 1953 in currencies other than Canadian, classified by companies and by the currencies in which business was written. The data given here are in Canadian dollars, mainly at par rates of exchange for the countries concerned, but there are several exceptions where, for purposes of account, certain companies have converted foreign currencies at rates other than par, particularly where the current rate differs substantially from the par rate. Approximately 66 p.c. of all such business in force was written in United States currency and 19 p.c. in sterling. From another standpoint approximately 28 p.c. was written in currencies of Commonwealth countries outside Canada and 72 p.c. in currencies of foreign countries.

Canadian life insurance companies operating under Federal Government registration at Dec. 31, 1953 had life insurance in force amounting to \$6,554,085,400 in countries outside Canada. Insurance in force in currencies other than Canadian amounted to \$6,496,852,967 and the difference between these figures is presumably the net amount of non-Canadian business transacted in Canadian currency. As against the total non-Canadian business, including annuity business, the Commonwealth and foreign investments of Canadian life insurance companies as at Dec. 31, 1953 amounted to \$1,983,476,418. As the business in force in Canada of these companies at Dec. 31, 1953 amounted to \$14,526,740,295, the total business on their books, Canadian and non-Canadian, amounted to \$21,080,825,695. Thus over 31 p.c. of the total business in force was outside Canada.

21.—Life Insurance Effected and in Force and Liabilities of Canadian Companies (excluding Fraternal Societies) operating under Federal Registration, in Currencies other than Canadian, by Company 1953.

Company	Insurance Effected			Insurance in Force Dec. 31		
	Common-wealth Currencies	Foreign Currencies	Total	Common-wealth Currencies	Foreign Currencies	Total
	\$	\$	\$	\$	\$	\$
Alliance Nationale.....	—	—	—	—	3,512,135	3,512,135
Canada.....	19,508,318	46,556,271	66,064,589	156,354,386	347,475,561	503,829,947
Commercial.....	—	—	—	—	35,000	35,000
Confederation.....	14,702,285	37,713,920	52,416,205	148,032,987	219,071,923	367,104,910

21.—Life Insurance Effected and in Force and Liabilities of Canadian Companies (excluding Fraternal Societies) operating under Federal Registration, in Currencies other than Canadian, by Company 1953—concluded.

Company	Insurance Effected			Insurance in Force Dec. 31		
	Common-wealth Currencies	Foreign Currencies	Total	Common-wealth Currencies	Foreign Currencies	Total
	\$	\$	\$	\$	\$	\$
Continental.....	—	—	—	24,251	108,914	133,165
Crown.....	10,667,066	63,562,707	74,229,773	75,480,774	315,345,909	390,826,683
Dominion.....	1,305,609	15,953,057	17,258,666	11,187,859	99,584,433	110,772,292
Dom. of Canada General	269,061	—	269,061	3,140,802	5,500	3,146,302
T. Eaton.....	—	—	—	12,500	3,333	15,833
Equitable.....	—	—	—	—	141,017	141,017
Great-West.....	—	125,045,374	125,045,374	85,247	705,336,452	705,421,699
Imperial.....	14,019,664	2,399,398	16,419,062	80,436,744	46,747,900	127,184,644
London.....	—	51,829	51,829	—	6,249,331	6,249,331
Manufacturers.....	54,819,671	78,736,352	133,556,023	328,262,571	516,860,126	845,122,697
Maritime.....	147,100	—	147,100	2,201,081	38,698	2,239,779
Monarch.....	—	26,782	26,782	—	219,823	219,823
Montreal.....	—	10,000	10,000	—	335,229	558,153
Mutual.....	—	1,893,574	1,893,574	—	17,647,489	18,520,058
National.....	1,497,792	817,112	2,314,904	7,893,324	2,967,037	10,860,361
North American.....	3,426,433	18,587,198	22,013,631	13,288,669	85,833,067	99,121,736
Northern.....	—	1,676,732	1,676,732	58,850	17,540,846	17,599,696
Sauvegarde.....	—	—	—	—	5,000	5,000
Sun.....	113,392,181	213,397,069	326,789,250	1,003,614,844	2,280,559,926	3,284,174,770
Western.....	—	—	—	—	57,936	57,936
Totals.....	233,755,180	606,427,375	840,182,555	1,831,170,382	4,665,682,585	6,496,852,967

Company	Liabilities		
	Commonwealth Currencies	Foreign Currencies	Total
	\$	\$	\$
Alliance Nationale.....	—	1,068,689	1,068,689
Canada.....	57,183,678	112,608,207	169,791,885
Commercial.....	—	18,983	18,983
Confederation.....	50,956,493	47,254,516	98,211,009
Continental.....	14,562	44,954	59,516
Crown.....	21,993,995	50,480,201	72,474,196
Dominion.....	2,530,672	24,465,936	26,996,608
Dominion of Canada General.....	936,182	1,620	937,802
T. Eaton.....	7,931	1,201	9,132
Equitable.....	—	45,504	45,504
Great-West.....	84,292	169,208,916	169,293,208
Imperial.....	17,732,571	14,887,491	32,620,062
London.....	—	531,336	531,336
Manufacturers.....	98,318,754	178,205,841	276,524,595
Maritime.....	763,648	12,830	776,478
Monarch.....	—	473,627	473,627
Montreal.....	524	132,521	133,045
Mutual.....	447,792	4,809,766	5,257,558
National.....	1,421,461	593,025	2,014,486
North American.....	2,947,803	19,002,930	21,950,733
Northern.....	23,110	2,644,689	2,667,799
Sauvegarde.....	—	885	885
Sun.....	381,468,774	751,158,920	1,132,627,694
Western.....	—	21,733	21,733
Totals.....	636,832,242	1,377,674,321	2,014,506,563

22.—Life Insurance Effectuated and in Force and Liabilities of Canadian Companies (excluding Fraternal Societies) operating under Federal Registration, in Currencies other than Canadian, by Currency 1953.

Currency	Insurance Effectuated	Insurance in Force	Liabilities
	\$	\$	\$
Commonwealth Currencies	233,755,180	1,831,170,382	636,832,242
Pounds—			
Sterling.....	142,334,934	1,219,159,467	464,750,740
Australia.....	—	31,368	24,127
British West Indies and Bermuda.....	8,909,048	58,458,729	13,094,743
Northern Rhodesia.....	560,560	554,831	12,610
South Africa.....	38,249,678	233,596,723	54,698,027
Southern Rhodesia.....	4,119,561	12,039,451	1,514,310
Dollars—			
British Honduras.....	20,250	738,166	327,450
British West Indies, Bermuda and British Guiana.....	12,579,083	86,585,354	26,215,023
Hong Kong.....	1,225,745	10,359,665	2,583,305
Malaya, Singapore or Straits.....	5,166,976	27,836,990	5,926,409
Rupees—			
Ceylon.....	4,595,380	36,158,502	10,540,164
India.....	12,878,900	129,473,730	54,025,481
Pakistan.....	—	1,825,675	1,351,149
Shillings—			
East Africa.....	3,115,065	14,351,726	1,768,704
Foreign Currencies	606,427,375	4,665,682,585	1,377,674,321
Bahts (Thailand).....	—	181,904	138,935
Bolivares (Venezuela).....	4,869,785	36,597,612	4,898,133
Cordobas (Nicaragua).....	—	12,645	8,501
Dollars (United States of America).....	567,019,432	4,301,944,532	1,289,804,775
Francs (France).....	—	16,993	17,440
Francs (Switzerland).....	—	7,280	13,671
Gourdes (Haiti).....	—	—	—95
Guilders (Netherlands).....	—	728,142	708,289
Guilders (Netherlands Antilles).....	1,292,933	12,312,728	4,007,370
Kyats (Burma).....	—	923,615	826,725
Pesos (Argentina).....	725,677	16,102,916	5,890,899
Pesos (Chile).....	—	153,186	100,407
Pesos (Colombia).....	5,736,417	20,003,688	2,695,967
Pesos (Cuba).....	17,163,556	168,413,105	41,845,264
Pesos (Dominican Republic).....	—	7,000	54,119
Pesos (Mexico).....	1,372,907	9,548,808	1,838,849
Pesos (Philippines).....	6,523,828	54,445,412	10,659,321
Pounds (Egypt).....	186,077	31,944,748	10,354,759
Pounds (Israel).....	1,536,763	5,903,129	857,626
Quetzales (Guatemala).....	—	—	31,040
Rupiahs (Indonesia).....	—	6,196,554	2,769,998
Soles (Peru).....	—	225,969	137,032
Yen (Japan).....	—	14,619	25,296
Grand Totals	840,182,555	6,496,852,967	2,014,506,563

Subsection 6.—Total Registered Life Insurance in Canada and Business of Canadian Organizations Abroad

Table 23 summarizes the business outside Canada of Canadian life companies and fraternal benefit societies. If to these figures is added the business in Canada of these organizations, as shown in Table 12, p. 1139, total business, internal and external, of all Canadian life insurance companies and fraternal societies may be obtained. Again adding the business in Canada of British and foreign companies and fraternal societies, a grand total is obtained of all life insurance in Canada and of the life insurance business abroad of foreign organizations; this total is shown in Table 24.

23.—Business of Registered Canadian Life Companies and Fraternal Societies Abroad 1954^p

NOTE.—Figures for business in Canada will be found in Table 12, p. 1139.

Item	Premiums Received	Claims Paid	New Policies Effectuated	Insurance in Force Dec. 31
	\$	\$	\$	\$
Canadian Life Companies—				
Federal.....	225,631,026	84,392,343	1,126,942,476	7,178,553,842
Provincial.....	¹	¹	¹	¹
Canadian Fraternal Societies—				
Federal.....	1,728,270	2,109,319	31,631,393	145,020,975
Provincial.....	¹	¹	¹	¹
Totals.....	227,359,296	86,501,662	1,158,573,869	7,323,574,817

¹ None reported.

24.—Total Registered Life Insurance Business in Canada and of Canadian Organizations Abroad 1954^p

Item	Premiums Received	Claims Paid	New Policies Effectuated	Insurance in Force Dec. 31
	\$	\$	\$	\$
Canadian Life Companies—				
Federal.....	550,760,672	188,865,777	2,949,789,156	22,943,447,135
Provincial.....	19,346,808	4,836,033	216,767,245	905,666,342
Canadian Fraternal Societies—				
Federal.....	4,623,795	4,520,223	64,760,979	348,919,977
Provincial.....	8,496,048	4,096,304	64,152,034	384,517,148
British life companies.....	14,150,968	3,931,416	104,253,783	596,756,619
Foreign life companies.....	147,116,145	45,831,915	729,407,173	6,772,045,113
Foreign fraternal societies.....	3,432,513	1,731,823	15,599,002	143,644,604
Grand Totals.....	747,926,949	253,813,491	4,144,729,372	32,094,996,938

Section 3.—Casualty Insurance

Casualty insurance in Canada includes various forms of accident and 24 other classes of insurance transacted by companies having Federal Government registration. In 1954 such insurance was issued by 322 companies, of which 80 were Canadian, 84 British and 158 foreign; of these, 231 companies also transacted fire insurance. In addition 21 fraternal orders or societies conducted accident and sickness insurance as well as life insurance business and three fraternal orders or societies carried on accident or sickness insurance only.

Table 27 shows the division of business in this field between Federal Government registrations and provincial licencees and indicates that the bulk of the business (about 90 p.c.) is transacted by companies having Federal Government registration.

Because as already stated most of the companies carrying on casualty insurance in Canada also transact fire insurance, their assets, liabilities, income and expenditure are included in the financial statistics of fire insurance companies given in Section 1, Sub-section 3, of this Chapter. Table 28, p. 1153, gives corresponding figures for total casualty business of Canadian companies, and the casualty business in Canada of British and foreign companies whose transactions are confined to insurance other than fire and life. In 1954 there were 17 Canadian, 6 British and 68 foreign companies whose operations were limited to the same field.

A certificate of registration is not required for marine insurance and therefore operating results are not included in the following tables. They are as follows for the ten year period 1945-54:—

Year	Premiums	Claims Incurred	Under-writing Profits
	\$	\$	\$
1945.....	5,978,274	2,995,704	1,704,367
1946.....	5,655,392	2,232,701	2,084,412
1947.....	7,932,404	4,529,161	1,031,313
1948.....	7,986,658	3,468,045	2,466,397
1949.....	7,715,671	4,327,555	1,342,088
1950.....	7,592,558	3,098,086	2,394,336
1951.....	8,908,639	4,670,972	1,716,201
1952.....	9,201,477	5,627,211	1,130,828
1953.....	9,429,278	5,413,073	1,196,680
1954.....	9,287,806	4,952,694	1,525,230

26.—Casualty Insurance Transacted in Canada by Companies under Federal Registration 1954

Class of Business	Number of Companies			Years Transacted	Aggregate Experience during Period Transacted	
	Canadian	British	Foreign		Premiums Written	Claims Incurred
				No.	\$	\$
Accident.....	—	—	—	50	92,299,497	43,476,664
Accident—						
Personal.....	41	47	36	30	127,245,147	49,520,087
Public liability ('Other' until 1941).....	48	50	47	30	123,474,989	49,186,842
Employers' liability (Employers' Liability and Workmen's Compensation until 1941).....	44	42	33	30	64,483,895	32,669,346
Combined accident and sickness.....	22	9	32	41	472,562,674	327,141,756
Aircraft (Aviation until 1941).....	6	14	19	27	13,349,056	7,376,245
Automobile.....	58	68	86	45	1,255,559,773	669,368,463
Boiler—						
Boiler (Steam Boiler until 1941).....	11	7	6	78	32,979,105	3,733,556
Machinery (Electrical Machinery until 1941).....	6	5	6	33	14,399,070	3,949,129
Credit.....	—	—	4	35	9,337,584	2,302,257
Crop.....	—	—	—	1	12,268	40,091
Earthquake.....	17	23	31	30	486,797	15,098
Explosion.....	—	—	—	9	1,195,107	12,189
Explosion (Riot and C.C. until 1941).....	15	15	21	22	1,939,738	40,564
Falling aircraft.....	—	—	1	23	22,215	8,550
Forgery.....	23	8	14	36	1,782,990	411,894
Fraud.....	—	—	—	18	315,992	99,688
Guarantee (not separated into Fidelity and Surety prior to 1921).....	—	—	—	47	13,452,616	3,811,867
Fidelity (since 1921).....	43	28	30	33	46,336,671	13,118,032
Surety (since 1921).....	42	28	28	33	40,249,375	5,891,316
Hail.....	8	4	27	45	119,373,423	73,943,310
Impact by vehicles.....	—	—	—	5	63	—
Inland transportation.....	43	61	67	58	58,518,553	23,281,371
Livestock.....	2	1	2	47	2,974,692	1,802,570
Personal property.....	48	64	76	25	162,259,895	85,051,232
Plate glass.....	46	46	37	80	31,389,812	14,348,030
Real property (Property prior to 1941).....	21	31	37	18	6,025,152	2,315,912
Sickness.....	30	25	16	59	121,707,595	66,779,340
Sprinkler leakage.....	—	—	—	14	844,301	427,673
Sprinkler leakage ¹	8	11	13	31	398,991	126,412
Theft (Burglary prior to 1941).....	46	44	43	62	65,115,773	24,741,164
Title (1907-1916).....	—	—	—	10	11,252	—
Water damage.....	—	—	2	6	74,526	14,780
Weather.....	—	—	2	40	826,237	492,956
Windstorm (Tornado prior to 1941).....	22	19	28	47	6,764,037	4,130,591
Totals.....	...	...	...	...	2,887,768,861	1,509,628,975

¹ Sprinkler leakage business of fire companies was grouped with fire business from 1923 to 1940 but has since been shown separately when written under a separate policy.

27.—Casualty Insurance Premiums and Claims in Canada by Class of Business 1954

NOTE.—Less all reinsurance for Canadian companies and registered or licensed reinsurance only for British and foreign companies.

Class of Business	Federal Registered Companies	Provincial Licensees			Lloyds	Grand Total
		Within Provinces by which they are Incorporated	In Provinces other than those by which Incorporated	Total Provincial Licensees		
NET PREMIUMS WRITTEN						
	\$	\$	\$	\$	\$	\$
Accident—						
Personal.....	8,107,679	1,557	—	1,557	1,078,049	9,187,285
Public liability.....	14,269,120	452,433	11,009	463,442	921,816	15,654,378
Employers' liability.....	3,905,478	639,148	867	640,015	308,568	4,854,061
Accident and sickness combined.....	84,488,227	3,961,329	813,395	4,774,724	35,242	89,298,193
Aircraft.....	2,101,076	—	—	—	1,287,979	3,389,055
Automobile.....	167,928,725	11,718,975	449,957	12,168,932	10,345,189	190,442,846
Boiler—						
Boiler.....	2,753,529	52,997	—	52,997	254,083	3,007,612
Machinery.....	1,888,151		—		76,416	2,017,564
Credit.....	438,957	—	—	—	—	438,957
Earthquake.....	28,969	—	—	—	39,166	68,135
Explosion.....	20,509	51	—	51	73,562	94,122
Falling aircraft.....	40	—	—	—	—	40
Forgery.....	85,428	—	—	—	673	86,101
Guarantee fidelity.....	2,767,109	144,489	2,577	147,066	700,545	3,467,654
Guarantee surety.....	3,402,770				21,914	3,571,750
Hail.....	3,461,439	2,429,812	225,513	2,655,325	12,858	6,129,622
Inland transportation.....	4,664,232	129,041	2,519	131,560	1,488,004	6,283,796
Livestock.....	65,841	4,438	—	4,438	146,533	216,812
Personal property.....	20,883,739	59,007	—	59,007	552,146	21,494,892
Plate glass.....	2,005,567	143,528	4,003	147,531	544	2,153,642
Real property.....	399,476	213,714	17,904	231,618	219,573	850,667
Sickness.....	8,633,292	884	143	1,027	354,170	8,988,489
Sprinkler leakage.....	4,166	—	—	—	4,615	8,781
Theft.....	4,903,970	146,060	4,692	150,752	101,052	5,155,774
Water damage.....	21,878	—	—	—	—	21,878
Weather.....	18,698	618,924	—	618,924	2,299	639,921
Windstorm.....	210,721	3,396	—	3,396	214	214,331
Totals.....	337,458,786	20,719,783	1,532,579	22,252,362	18,025,210	377,736,358
NET CLAIMS INCURRED						
	\$	\$	\$	\$	\$	\$
Accident—						
Personal.....	3,828,449	514	—	514	836,427	4,665,390
Public liability.....	6,730,421	222,323	1,370	223,693	325,193	7,279,307
Employers' liability.....	1,441,503	347,408	100	347,508	239,040	2,028,051
Accident and sickness combined.....	63,170,901	3,005,305	329,038	3,334,343	—6,464	66,498,780
Aircraft.....	975,895	—	—	—	2,438,135	3,414,030
Automobile.....	87,946,576	5,459,556	237,031	5,696,587	5,559,042	99,202,205
Boiler—						
Boiler.....	357,935	1,188	—	1,188	60,887	418,822
Machinery.....	768,989		—		729,735	1,499,912
Credit.....	165,184	—	—	—	—	165,184
Earthquake.....	—	—	—	—	—	—
Explosion.....	—191	—	—	—	5,777	5,586
Forgery.....	34,764	—	—	—	37,138	71,902
Guarantee fidelity.....	1,046,348	32,517	—	32,517	1,173,852	2,220,200
Guarantee surety.....	722,627		—		2,070	757,214
Hail.....	2,858,986	1,922,933	186,501	2,109,434	—	4,968,420
Inland transportation.....	2,092,488	71,110	274	71,384	1,567,057	3,730,929
Livestock.....	43,295	2,310	—	2,310	113,555	159,160
Personal property.....	11,653,715	29,517	—	29,517	125,166	11,808,398
Plate glass.....	906,172	56,413	909	57,322	217	963,711
Real property.....	569,618	82,325	5,061	87,386	145,707	802,711
Sickness.....	3,983,800	1,208	—	1,208	145,388	4,130,396
Sprinkler leakage.....	9,828	—	—	—	277	10,105
Theft.....	2,442,065	80,023	91	80,114	138,445	2,660,624
Water damage.....	—1,734	—	—	—	—	—1,734
Weather.....	19,765	243,649	—	243,649	2,204	265,618
Windstorm.....	150,892	1,911	—	1,911	17	152,820
Totals.....	191,921,759	11,560,210	760,375	12,320,585	13,638,865	217,881,209

28.—Assets and Liabilities, Income and Expenditure of Canadian, British and Foreign Casualty Insurance Companies 1953 and 1954

Companies	Assets	Liabilities	Excess of Assets over Liabilities	Income	Ex- penditure	Excess of Income over Ex- penditure
	\$	\$	\$	\$	\$	\$
1953						
Canadian (in all countries).....	31,602,832	21,490,134	10,112,698	39,121,975	36,719,113	2,402,862
British (in Canada).....	3,120,745	1,752,221	1,368,524	2,713,608	2,213,721	499,887
Foreign (in Canada).....	86,847,828	58,131,613	28,716,215	87,906,335	77,160,934	10,745,401
Totals, 1953.....	121,571,405	81,373,968	40,197,437	129,741,918	116,093,768	13,648,150
1954						
Canadian (in all countries).....	30,036,515	22,303,188	7,733,327	43,402,113	40,268,086	3,134,027
British (in Canada).....	3,259,687	2,287,723	971,964	2,989,826	2,693,178	296,648
Foreign (in Canada).....	91,355,713	61,294,007	30,061,706	87,201,181	77,177,299	10,023,882
Totals, 1954.....	124,651,915	85,884,918	38,766,997	133,593,120	120,138,563	13,454,557

Section 4.—Government Insurance

In addition to the insurance provided by private insurance companies, various types of government insurance schemes have been adopted in recent years by the Federal and Provincial Governments.

Information on unemployment insurance, health insurance, veterans insurance, export credits insurance, etc., will be found in the appropriate Chapters on Labour, Health and Welfare, Foreign Trade, etc.

Provincial Insurance Schemes.—Saskatchewan.—The Saskatchewan Government Insurance Office, a Crown corporation established by the Saskatchewan Government Insurance Act 1944, commenced business May 1, 1945; it deals in all lines of insurances other than sickness and life.

It administers the Automobile Accident Insurance Act which provides compensation for the victims of automobile accidents as well as property damage in such accidents. The Act provides Saskatchewan residents with personal injury coverage without regard to liability and in addition all Saskatchewan motorists enjoy public liability and comprehensive protection including fire, theft and collision coverages.

The Office, together with the Saskatchewan Department of Natural Resources, administers a trust fund made up of a portion of hunting licence fees and insurance premiums, to compensate farmers for damage done to their crops by certain forms of wildlife, chiefly ducks, geese and deer.

Information regarding the operation of the Saskatchewan Government Insurance Office or the Automobile Accident Insurance Act may be obtained from the Public Relations Department of the Saskatchewan Government Insurance Office, 11th and Cornwall Streets, Regina, Sask.

Alberta.—Provincial Government insurance in Alberta, coming within the purview of the Alberta Insurance Act, relates firstly to the Alberta General Insurance Company in which the entire business of the fire branch of the Alberta Government Insurance Office

was vested by the Legislature on Mar. 31, 1948, and secondly to the Life Insurance Company of Alberta which was constituted on the same date to take over the life branch of the Alberta Government Insurance Office. Each company is administered by a separate board of directors. The Lieutenant-Governor in Council appoints the members to the respective Boards but the Charter of the Life Insurance Company of Alberta provides for the election of two policyholder directors. While both companies are Crown corporations, they are not entitled to the usual immunities of the Crown, since they may sue and be sued in any court of competent jurisdiction.

A variety of agencies in Alberta offer forms of prepaid protection corresponding to insurance but the nature of the enabling legislation governing these plans emphasizes the fact that they do not constitute insurance. Because such exemptions are specifically provided by the insurance laws of the Province, reference to these plans is necessary only to make it clear that they do not come within the scope of the Alberta Insurance Act.

It should be noted that the Alberta Hail Insurance Act is administered by the Provincial Treasurer but none of the provisions of the Alberta Insurance Act apply to the Alberta Hail Insurance Board.

Information on insurance matters additional to that set out above may be obtained from the Superintendent of Insurance, Department of the Provincial Secretary, Edmonton, Alta.

CHAPTER XXVIII.—DEFENCE OF CANADA

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

PART I.—THE ARMED SERVICES AND DEFENCE RESEARCH*

Section 1.—The Department of National Defence

The Minister of National Defence exercises control over and management of the Canadian Armed Forces, the Defence Research Board and other matters relating to national defence. Under his direction the three Chiefs of Staff are responsible for the control and administration of their respective Services and the Chairman of the Defence Research Board is responsible for the Defence Scientific Service. A Chairman of the Chiefs of Staff Committee, appointed in 1951, is responsible to the Minister ensuring that all matters of joint defence and defence policy, in its widest sense, are carefully examined and co-ordinated before decisions are made.

The civilian administrative organization, headed by the Deputy Minister, is constituted on a functional basis. The Deputy Minister maintains a continuing review and control over the financial aspects of operational policy, logistics, and personnel and administration. The Deputy Minister is assisted by an Associate Deputy Minister and four Assistant Deputy Ministers each of whom administers a division of the Deputy Minister's branch responsible for matters of administration and personnel; construction, engineering and properties; finance; and supply. Also responsible to the Deputy Minister are the Controller General of Inspection Services, the Judge Advocate General, the Chief Secretary and where staff matters are concerned the Director of Public Relations.

A number of committees meet at regular intervals to consider and advise on joint issues. These include:—

- (1) **Defence Council.**—Composed of the Minister of National Defence (Chairman), the Associate Minister of National Defence (Vice-chairman), the Parliamentary Assistant to the Minister, the Deputy Minister, the Chairman of the Chiefs of

*Submitted by the Office of the Deputy Minister, Department of National Defence, Ottawa.

Staff Committee, the three Chiefs of Staff, the Chairman of the Defence Research Board and the Associate Deputy Minister; its purpose is to advise the Minister on administrative and other matters.

- (2) **Chiefs of Staff Committee.**—Composed of the Chairman of the Chiefs of Staff Committee, the three Chiefs of Staff and the Chairman of the Defence Research Board. The Deputy Minister of National Defence attends regularly and the Secretary to the Cabinet and the Under Secretary of State for External Affairs attend when required. The purpose of the Committee is to maintain a continuous review of all operational problems; sub-committees consider various aspects of these problems and report to the parent committee.
- (3) **Personnel Members Committee.**—Composed of the Chief of Naval Personnel, the Adjutant-General, the Air Member for Personnel, the Assistant Deputy Minister (Administration and Personnel), the Assistant Deputy Minister (Finance) and a representative of the Chairman of the Defence Research Board. The purpose of the Committee is to examine personnel problems of the three Services with the general aim of achieving uniform personnel policies; sub-committees consider various aspects of personnel problems and report to the parent committee.
- (4) **Principal Supply Officers Committee.**—Composed of the Chief of Naval Technical Services, the Quartermaster-General, the Air Member for Technical Services, the Assistant Deputy Minister (Requirements) and a representative of the Chairman of the Defence Research Board. The purpose of the Committee is to consider all logistical problems; sub-committees consider various aspects of these problems and report to the parent committee.

Defence Supply Committee.—An inter-departmental committee composed of the Deputy Ministers of National Defence and of Defence Production and the senior military and civilian supply officers of the two departments maintains a continuous review of inter-departmental procurement and production problems and considers various policy aspects of the procurement of ammunition, armament, aircraft, etc. Eleven panels consider various aspects of these problems and report to the parent committee.

Liaison Abroad.—The Chairman of the Chiefs of Staff, the Canadian military representative in the North Atlantic Treaty Organization, is responsible for co-ordinating all NATO military matters and acts as a military adviser to Canadian NATO delegations. For purposes of liaison and the furtherance of international co-operation in defence, Canada also maintains (1) Canadian Joint Staff (Washington) representing the three Services and the Defence Research Board; (2) Canadian Joint Staff (London) representing the three Services and the Defence Research Board; (3) Canadian Military Mission, Far East; and (4) Service Attachés in various countries throughout the world. In addition a number of defence matters of concern to both Canada and the United States are considered by the Permanent Joint Board on Defence which is composed of representatives from the two countries.

Mutual Aid.—An analysis of Canada's Mutual Aid program expenditures are shown in the Chart on p. 144 and further details on Canada's contributions to NATO on pp. 144-145.

Rates of Pay and Allowances.—The entire pay structure for comparable ranks in the different Services is on a uniform basis. Monthly rates for pay and allowances are given in Table 1.

1.—Monthly Rates of Pay and Allowances for the Armed Forces, Effective Apr. 1, 1956

Royal Canadian Navy	Canadian Army	Royal Canadian Air Force	Basic Pay	Pro-gressive Pay				Group Pay for Tradesmen and Specialists				Subsistence Allowance		Marriage Allowance	Separated Family's Allowance (with Children)	
				Years in Rank				Group				Personnel not in Receipt of Marriage Allowance	Personnel in Receipt of Marriage Allowance		Personnel in Receipt of Sub-sistence Allowance	Personnel not in Receipt of Sub-sistence Allowance
				3	6	9		1	2	3	4					
Ordinary Seaman (under 17 years)	Private recruit (under 17 years)	Aircraftman 2 (under 17 years)	\$	—	—	—	—	—	—	—	—	—	61	—	—	—
Ordinary Seaman (entry)	Private (recruit)	Aircraftman 2	100	—	—	—	—	10	25	45	60	61	91	30	30	61
Ordinary Seaman (trained)	Private (trained)	Aircraftman 1	106	—	—	—	—	10	25	45	60	61	91	30	30	61
Able Seaman	Private (higher rate)	Leading Aircraftman	119	20	6	—	—	10	25	45	60	61	91	30	30	61
Leading Seaman	Corporal	Corporal	155	3	3	3	3	10	25	45	60	61	91	30	30	61
Petty Officer 2	Sergeant	Sergeant	172	5	5	5	5	10	25	45	60	72	91	30	30	72
Petty Officer 1	Staff Sergeant	Flight Sergeant	193	5	5	5	5	10	25	45	60	81	91	30	30	81
Chief Petty Officer 2	Warrant Officer 2	Warrant Officer 2	223	5	5	5	5	10	25	45	60	81	91	30	30	81
Chief Petty Officer 1	Warrant Officer 1	Warrant Officer 1	252	5	5	5	5	10	25	45	60	92	102	30	30	92
Midshipman	—	—	140	—	—	—	—	—	—	—	—	61	91	30	40	61
Acting Sub-Lieutenant	Second Lieutenant	Pilot Officer	200	—	—	—	—	—	—	—	—	65	91	30	40	65
Sub-Lieutenant	Lieutenant	Flying Officer	245	35	15	—	—	—	—	—	—	89	110	30	40	89
Commissioned Officer	Officer commissioned from ranks	Officer commissioned from ranks	323	15	15	15	—	—	—	—	—	94	110	30	40	94
Lieutenant	Captain	Flight Lieutenant	325	25	25	25	—	—	—	—	—	94	110	30	40	94
Lieutenant-Commander	Major	Squadron Leader	405	25	25	25	—	—	—	—	—	113	113	30	40	113
Commander	Lieutenant-Colonel	Wing Commander	495	35	35	35	—	—	—	—	—	126	126	30	40	126
Captain	Colonel	Group Captain	655	35	35	—	—	—	—	—	—	139	139	30	40	139
Commodore	Brigadier	Air Commodore	877	—	—	—	—	—	—	—	—	153	153	30	40	153
Rear-Admiral	Major-General	Air Vice-Marshal	1,041	—	—	—	—	—	—	—	—	165	165	30	40	165

Subsection 1.—The Royal Canadian Navy

Organization.—The Chief of Naval Staff at Naval Headquarters at Ottawa exercises central authority over the Royal Canadian Navy; Flag Officers at East and West Coasts exercise operational and administrative command of ships and establishments within the Atlantic and Pacific Coast Commands respectively. There are also 22 Naval Divisions throughout Canada that are established primarily for the recruiting and training of the Royal Canadian Navy (Reserve); they are administered by the Flag Officer, Naval Divisions with headquarters at Hamilton, Ont. Naval missions are maintained at London, England, and Washington, D.C., to maintain liaison with the Royal Navy and the United States Navy. As part of Canada's NATO commitment, officers of the Royal Canadian Navy are now serving on the staffs of the Supreme Allied Commander, Atlantic, and the Commander-in-Chief, Eastern and Western Atlantic Areas.

For the protection of shipping and the defence of Canadian coastal areas and harbours, the Royal Canadian Navy had 64 ships in commission during the year ended Mar. 31, 1954. In the event of war 38 of these are available for assignment to NATO for the defence of the Canada-United States area and for the protection of convoys under the control of the Supreme Allied Commander, Atlantic. Ships not earmarked for assignment to NATO are required for harbour defence, for training and for miscellaneous duties.

The strength of the Royal Canadian Navy on Aug. 31, 1955 was 2,646 officers and 16,534 men and women in the regular force and 1,701 officers and 3,818 men and women in the reserve force.

Operations at Sea 1954-55.—During the year ended Mar. 31, 1955 the Royal Canadian Navy reduced its contribution to the UN Naval Forces in Korean waters from three to one destroyer escort. After leaving the Far East in January 1955 HMC Ships *Huron* and *Iroquois* visited Ceylon, India and Pakistan on their return passage to Halifax.

In the course of normal training HMC Ships made many visits to Bermuda and American and West Indies ports. HMCS *Quebec* carried out cruises to Europe, South America and Africa and the first Escort Squadron, HMC Ships *Algonquin*, *Prestonian*, *Lauson* and *Toronto*, visited Mediterranean countries in the autumn of 1954. During the year, HMC Ships in addition to small training and tactical exercises took part in NATO exercises "New Broom 3" in the Western Atlantic Area and "Morning Mist" in the Eastern Atlantic Area.

The Arctic Patrol Vessel, HMCS *Labrador*, commissioned in June 1954, carried out survey and associated operations in the Arctic between July and September. It was the first warship to complete the Northwest Passage.

During the year 12 additional destroyer escorts, frigates, coastal escorts and minesweepers were commissioned. Also an agreement with the Royal Navy was implemented by which three RN submarines were lent to the RCN, based on Halifax, thus greatly increasing the facilities for anti-submarine training for both the RCN and RCAF.

Training Ashore.—HMCS *Stadacona* at Halifax, N.S., and HMCS *Naden* at Esquimalt, B.C., are the major shore establishments of the Royal Canadian Navy. Their facilities include schools for general and specialized training besides the drafting depots, hospitals and accommodation facilities necessary for the maintenance of the ships based on each coast. Formal courses in seamanship, gunnery, navigation direction, communications, diving, damage control and fire fighting, electricity and electronics, marine engineering, meteorology, medical assistant skills, and supply duties are provided in the schools and centres of these two establishments for officers and men of the regular and reserve forces. A third major shore establishment, HMCS *Shearwater* at Dartmouth, N.S., provides technical training for naval aviation.

During the year ended Mar. 31, 1955, 4,043 regular force new entries and re-entries received entry training at HMCS *Cornwallis*. A method of training new entry ordinary seamen has been devised which affords an economy of training time and intership and

establishments training. In order to standardize the professional knowledge of all lieutenants of the executive branch, 11 month technical and leadership courses for junior officers have been conducted since 1949. A Technical Apprenticeship Training program was introduced in August 1952 to assist in overcoming the shortage of skilled tradesmen. HMCS *Cape Breton*, a 10,000 ton maintenance vessel, was equipped and commissioned especially for this purpose.

As part of the naval aviation training program short service appointment midshipmen specializing in naval aviation undergo a 12 month basic course before starting flying training. The first six months are spent in HMCS *Cornwallis* and the second term is spent aboard a cruiser. Training of pilots, observers, air engineering and maintenance personnel, observers' mates and others connected with naval aviation is carried out at HMCS *Shearwater* with further training aboard HMCS *Magnificent*. HMCS *Stadacona* also provides additional instruction in some technical subjects. As part of the naval aviation program exercises are carried out in conjunction with the Royal Navy, the Royal Canadian Air Force and the United States Navy.

To meet the demand for officers for the expanding Navy a seven year short service scheme known as the "Venture Plan" was introduced in September 1954 and a new training establishment, HMCS *Venture*, was commissioned in Esquimalt, B.C. Also HMCS *Ontario* assumed the role of cadet training ship.

Junior officers of the engineering and executive branches on completion of their initial training in Canada proceed to the United Kingdom to take sub-lieutenant courses in gunnery, torpedo, anti-submarine, navigation direction and ship construction. Advanced training in certain highly technical fields and in staff duties is undertaken by selected officers in Canada, the United Kingdom and the United States.

At HMCS *d'Iberville*, where both the French and the English languages are used, the program is designed to give all French-speaking regular force new entries a basic knowledge of English together with preliminary training in seamanship and professional naval subjects. French-speaking new entries join the classes in HMCS *Cornwallis* at an appropriate stage in their training.

Ship Construction, Refitting and Modernization.—Work on the construction of 14 new destroyer escorts has continued steadily. The first vessel of the Class, HMCS *St. Laurent*, was commissioned on Oct. 29, 1955. The skills learned during the early part of the program are now beginning to show results. The first of 14 minesweepers was completed on Nov. 1, 1954 when HMCS *Fortune* was accepted. The keels of two of the six minesweepers being built to replace the six transferred to France as part of Canada's Mutual Aid program were laid by Oct. 1, 1955.

HMCS *Crescent* was completely modernized and converted at Esquimalt and was commissioned as an Algonquin Class Destroyer Escort. The program for the modernization and conversion of frigates progressed steadily and at the end of 1955 was 85 p.c. complete. The aircraft carrier, HMCS *Bonaventure*, was under construction at Belfast, Northern Ireland.

Royal Canadian Navy (Reserve).—Naval Divisions are established in the following centres:—

St. John's, Nfld., HMCS *Cabot*
 Corner Brook, Nfld., HMCS *Caribou*
 Charlottetown, P.E.I., HMCS *Queen Charlotte*
 Halifax, N.S., HMCS *Scotian*
 Saint John, N.B., HMCS *Brunswick*
 Quebec, Que., HMCS *Montcalm*
 Montreal, Que., HMCS *Donnacona*
 Toronto, Ont., HMCS *York*
 Ottawa, Ont., HMCS *Carleton*
 Kingston, Ont., HMCS *Cataraqui*
 Hamilton, Ont., HMCS *Star*

Windsor, Ont., HMCS *Hunter*
 London, Ont., HMCS *Prevost*
 Port Arthur, Ont., HMCS *Griffin*
 Winnipeg, Man., HMCS *Chippawa*
 Regina, Sask., HMCS *Queen*
 Saskatoon, Sask., HMCS *Unicorn*
 Calgary, Alta., HMCS *Tecumseh*
 Edmonton, Alta., HMCS *Nonsuch*
 Vancouver, B.C., HMCS *Discovery*
 Victoria, B.C., HMCS *Malahat*
 Prince Rupert, B.C., HMCS *Chatham*

Each division, commanded by a reserve officer, is responsible for specialized training in one of the various phases of naval activity—gunnery, harbour defence, aviation, communications, etc. Royal Canadian Navy officers and men assist with instruction. Twenty-two Naval Divisions are grouped in a Reserve Command headed by the Commanding Officer, Naval Divisions, at Hamilton, Ont. The Great Lakes Training Centre handled new entry reserve training in 1954; two gate vessels and two coastal escort ships, together with smaller craft, operated from Hamilton during this period. Great training value was also derived from the Fairmile motor launches attached to the Great Lakes divisions and from three small minesweepers operated by coastal divisions. During 1953-54 Naval Air reserve squadrons were formed at Toronto and Kingston, Ont., and at Victoria, B.C.

University Naval Training Division (UNTD).—The university naval training program is designed to give instruction to students in attendance at universities across Canada with the object of providing well trained junior officers for the Royal Canadian Navy and the Royal Canadian Navy (Reserve). Twenty-two UNTD's, drawing on students in 35 universities and colleges, have been established and had a total strength of 818 cadets at June 30, 1955. The total training period is three years and cadets are required to complete three winter training periods, two summer periods and certain specified courses. During 1954, 15 UNTD cadets were appointed to regular force commissions in the RCN and 113 obtained commissions in the RCN (Reserve).

The Royal Canadian Sea Cadets.—The Sea Cadets organization, as of June 30, 1954, consisted of 136 authorized corps sponsored by the Navy League of Canada and administered, trained and supervised by the Royal Canadian Navy. During the summer of 1955, 22 cadets trained in HMCS *Magnificent* on two separate cruises. Fourteen other cadets were embarked in HMCS *Iroquois* for a training cruise in June. A brass band of 28 cadets from RCSCC *Terra Nova*, St. John's, Nfld., spent the summer at the Great Lakes Training Centre, Hamilton, Ont. Approximately 280 officers and 3,220 sea cadets received training in RCN establishments and Royal Canadian Sea Cadet camps during the summer of 1955. The total strength (officers and cadets) of the Sea Cadet Corps on Aug. 31, 1955 was 9,978.

Subsection 2.—The Canadian Army

Organization.—Army Headquarters at Ottawa, organized as the General Staff Branch, the Adjutant-General Branch and the Quartermaster-General Branch, conducts the planning and policy for the administration and training of the regular and reserve forces of the Canadian Army. Public relations, cadet services, military intelligence, chaplain services, provost and associated activities are directed through Commands by Army Headquarters. The five Commands and seven Areas are located as follows:—

<u>Commands</u>	<u>Headquarters</u>	<u>Areas and Headquarters</u>
Eastern Command.....	Halifax, N.S.....	(1) New Brunswick Area, Fredericton, N.B. (2) Newfoundland Area, St. John's, Nfld.
Quebec Command.....	Montreal, Que.....	(3) Eastern Quebec Area, Quebec, Que.
Central Command.....	Oakville, Ont.....	(4) Eastern Ontario Area, Kingston, Ont. (5) Western Ontario Area, London, Ont.
Prairie Command	Winnipeg, Man.....	(6) Saskatchewan Area, Regina, Sask.
Western Command.....	Edmonton, Alta.....	(7) British Columbia Area, Vancouver, B.C.

The two main components of the Canadian Army are the Canadian Army Regular and the Reserves. The components of the Reserves are the Canadian Army Militia, the Regular Reserve, the Supplementary Reserve, the Canadian Officers' Training Corps (COTC), the Cadet Services of Canada and the Reserve Militia. Additional to but not an integral part of the Canadian Army are the Services Colleges (*see* pp. 1167-1169), officially authorized cadet corps, rifle associations and clubs.

At the end of August 1955 there were 5,566 officers in the Canadian Army Regular and 41,879 men; the strength of the Canadian Army Militia was 7,280 officers and 38,509 men.

In 1953 the 1st Canadian Infantry Division was formed and, with the exception of a few units not required under present conditions, the Division has been activated. Divisional Headquarters and two-thirds of the Division are stationed and trained in Canada. The remaining third, one brigade group, is based in Germany. During the autumn of 1955 the 2nd Canadian Infantry Brigade Group took over from the 1st Canadian Infantry Brigade Group as Canada's NATO formation in Germany with headquarters in the area of the city of Soest, Westphalia. Canadian units in the base area and communications zone in Europe are administered by Headquarters, Canadian Base Units, Europe, located at Stockum, Germany.

Operations in 1955.—As with other Commonwealth countries Canada in September 1954 ordered a reduction in the size of its force in Korea and Japan. From the previous contribution of the 25th Canadian Infantry Brigade Group to the 1st Commonwealth Division, the force was reduced to about 200 officers and men serving as part of the Commonwealth Brigade in Korea and about 50 administrative troops in Japan. The largest group still serving in Korea at the end of 1955 were members of the 3rd Canadian Field Ambulance, RCAMC.

As a result of international agreements the Canadian Army provides the Department of External Affairs with personnel for truce supervisory duties in Indo-China. By September 1954 about 150 officers, non-commissioned officers and men were serving in Viet-Nam, Cambodia and Laos along with Indian and Polish representatives. During the late summer of 1955, after a one year tour of duty, a man-for-man replacement program was carried out.

In connection with Canada's military obligations under the North Atlantic Treaty, the 1st Canadian Infantry Brigade Group continued to serve in Germany until November 1955 when it was replaced by the 2nd Canadian Infantry Brigade Group. The Brigade's four new permanent camps in Western Germany are located near the centres of Soest, Werl, Hemer and Iserlohn. Canadian troops continued to participate in training exercises with other NATO forces.

During the summer of 1955 the 1st Canadian Infantry Division was given its first divisional training scheme in exercise "Rising Star" at Camp Gagetown, N.B. The exercise culminated six weeks of intensive sub-unit, unit and brigade training for about 10,000 members of the Regular Army.

As an important part of the defence of Canada the Mobile Striking Force, consisting of infantry and supporting units and an RCAF component, continued training preparations to deal effectively with possible small airborne invasions by an aggressor. The battalions forming the infantry element were: the 1st Battalions of the Royal Canadian Regiment, the Princess Patricia's Canadian Light Infantry, and the Royal 22nd Regiment. Two major exercises, "Bull Dog II" and "Bull Dog III", were carried out by units of the Mobile Striking Force during the winter of 1954-55. They were held in the sub-Arctic and provided experience in winter movement and tactics on a battalion scale. On its return from duty, infantry units of the 1st Canadian Infantry Brigade assumed the Mobile Striking Force role.

Equipment.—The Canadian Army Equipment Development Program continues to concentrate on those fields particularly suited to Canadian capabilities and in which there are special Canadian needs. Particular attention has been given to the problem of living and operating in the North under the most severe and adverse conditions. The development and evaluation of defence equipment for atomic, biological and chemical warfare

continued in close co-operation with the RCN, RCAF and Defence Research Board. The standardization program in the United States, United Kingdom and Canada and within NATO continues to promote the exchange of knowledge to the mutual advantage of the Armies concerned. Additional agreements were reached affecting procedures and equipment. Subsequent to the agreement between Belgium, Canada, France, the United Kingdom and the United States to adopt the 7.62 mm (.30-inch) calibre small arms round, the Canadian Army carried out tests and trials with various types of Fabrique Nationale (FN) rifles in an attempt to select the best rifle for use by the Canadian serviceman. On June 22, 1955 the Minister of National Defence announced that the rifle 7.62 mm C1 had been adopted as standard for use in the Canadian Army.

Training.—The policy of training is determined at Army Headquarters. General Officers Commanding Commands implement the training policy within their Commands, except for the training conducted at Army and Corps Schools, which are under the direct supervision of Army Headquarters.

The basic training of 9,206 recruits and the corps training of officers and men of the Canadian Army Regular was carried out at regimental depots, units, and corps schools. During 1954, 9,124 personnel attended courses at the schools of instruction.

Promotion qualification examinations consisting of written and practical tests were held to qualify Regular and Militia officers for the ranks of Captain and Major; 73 candidates passed qualification examinations for selection to attend the Canadian Army Staff College, and nine passed the entrance examination for the Royal Military College of Science. A training program was conducted during the winter months for all Regular officers to assist them in their professional knowledge. Militia Staff Course examinations were conducted for Militia officers to qualify Captains and Majors for Command and Staff appointments.

Qualifying courses for Junior NCO's were conducted under General Officers Commanding Commands. Senior NCO courses were conducted at corps schools in accordance with newly instituted training standards.

French/English language training which is available to all ranks of the Canadian Army was conducted by Commands and AHQ. The Canadian Army Training School conducted six month French-language courses for English-speaking officers and NCO instructors. A number of French-speaking potential NCO's received English-language training during the year.

Officers from the United States, the United Kingdom, Norway, France, Italy and Turkey attended courses at Canadian Army schools of instruction.

Trade and specialty training is given at corps schools and units. When feasible the facilities of civilian schools are used to supplement training at Army establishments. Trades training is conducted in accordance with the training standards for the appropriate trades. During 1955 several new trades were introduced in keeping with technical developments in the Army. New standards were set for instructional positions, resulting in an up-grading in the professional status and trade grouping of assistant instructors.

The apprentice training program, started in January 1953, is designed to train selected young men as soldier tradesmen and to provide them with a requisite academic background to enable them to advance to senior non-commissioned ranks in the Army. A high entry standard has been set to ensure that the prospective soldier apprentice will be capable of absorbing trade and academic training, and developing the leadership qualities essential in senior non-commissioned officers. During 1954 an additional 303 apprentices were enrolled and 39 civilian teachers were employed to provide academic instruction for about 700 apprentice soldiers. Academic credits are obtained from the educational authorities of the province where the training is conducted. Apprentices are receiving trades training as clerks, cooks, carpenters, electricians, wireless operators, radar operators, radio mechanics, storemen, gun mechanics, vehicle mechanics and armourers. A balanced training program is designed to stimulate the interest of the apprentice. Military, trades, academic and recreational training are integrated. Separate messing, canteen and sleeping arrangements are provided for apprentices.

The training of the Mobile Striking Force continued throughout the year. The two important exercises conducted during the winter months of 1954-55 in the Fort Churchill area of northern Manitoba and at Yellowknife in the Northwest Territories (mentioned above) involved the dropping of Army parachute units to deal with simulated enemy lodgements. Other training for the Mobile Striking Force included parachute and air supply courses at the Canadian Joint Air Training Centre, Rivers, Man., and winter warfare courses at Wainwright, Alta., and Fort Churchill, Man.

Collective training for units in eastern Canada was conducted at Camp Gagetown, N.B., during the summer months and for units from western Canada at Camp Wainwright, Alta. All arms training was begun on the sub-unit and unit level, and culminated in exercises on the brigade level.

The Reserves.—An additional component of the Reserves, known as the Canadian Army Regular Reserve, conducts a training period of 60 days, authorized for the Canadian Army Militia in 1954-55, of which up to 15 days may be camp training as determined by General Officers Commanding Commands. In the summer of 1954 a total of 16,593 all ranks attended camp training. The aim of militia training continues to be to establish within each unit a nucleus of instructional and administrative personnel capable of training and organizing the unit in peace and conducting its expansion on mobilization.

The Regular Officer Training Plan (ROTP).—The Regular Officer Training Plan is in effect at the three Canadian Services Colleges and at all Canadian universities and affiliated colleges which have contingents of the COTC. The purpose of the Plan is to train selected students for commissions in the Canadian Army Regular. Students enrol in the Canadian Army Regular with a special rate of pay; tuition and the essential fees are paid and grants are given for books and instruments needed for study. In the period Sept. 1, 1954 to Aug. 31, 1955, 63 of these sponsored students graduated and were commissioned in the Canadian Army Regular. Training consists of military studies, drill and physical training during the academic year; the summer term is devoted to practical training at military establishments.

The Canadian Officers' Training Corps (COTC).—In addition to the Regular Officer Training Plan, units of the Canadian Officers' Training Corps are maintained at Canadian universities to produce primarily, from among university undergraduates, officers for the reserve components of the Army. University graduates who have been members of the Canadian Officers' Training Corps are also eligible for commissions in the Canadian Army Regular. Members of the COTC undertake the same training as members of the ROTP. In the period Sept. 1, 1954 to Aug. 31, 1955, 12 officers who had trained with the COTC were awarded commissions in the Canadian Army Regular.

Army Cadets.—The number of Royal Canadian Army Cadets trained during 1954-55 was 65,000, enrolled in 556 cadet corps. Training was conducted by 2,284 cadet instructors assisted by personnel from the Canadian Army Regular. During the summer of 1955 a total of 5,431 cadets attended trades and specialties training cadet camps situated at Aldershot, N.S., Farnham, Que., Camp Borden, Ont., Ipperwash, Ont., Dundurn, Sask., Vernon, B.C., and Vancouver, B.C. The cadets qualified as senior leaders and in such military trades as driver mechanical transport, infantry signaller and wireless and line-operator. In addition 504 cadets attended two-week camps at Clear Lake, Sask., and Sarcee, B.C. to qualify as junior leaders. The National Cadet Camp, held during the last two weeks of July and the first week of August 1955 at Banff, Alta., was attended by 235 carefully chosen first class and master cadets. The opportunity to attend this camp was an award for outstanding proficiency in cadet work. During the summer of 1955, 495 officers and civilian instructors of the Cadet Services of Canada attended courses at the various cadet camps.

Subsection 3.—The Royal Canadian Air Force

Organization.—Air Force Headquarters at Ottawa conducts the planning and policy for administration and training of the active and reserve forces of the RCAF. Organization is divided into three categories—personnel, logistics, and plans and operations. The major formations of the RCAF and their headquarters locations are as follows:—

<i>Formation</i>	<i>Headquarters</i>
Air Defence Command.....	St. Hubert, Que.
5 Air Division.....	Vancouver, B.C.
1 Air Division.....	Metz, France
Air Transport Command.....	Lachine, Que.
Air Material Command.....	Rockcliffe, Ont.
Maritime Air Command.....	Halifax, N.S.
Training Command.....	Trenton, Ont.
1 Tactical Air Command.....	Edmonton, Alta.
14 Training Group.....	Winnipeg, Man.

The organization of the RCAF's planned total of 41 squadrons was completed by the end of 1954 and the number of aircraft of all types in service was 2,845. Twenty-one of the squadrons are for the air defence of Canada, and twelve squadrons are stationed in France and Germany as No. 1 Air Division. Four squadrons are required for RCAF transport operations at home and abroad. Three maritime squadrons operate in conjunction with other forces for the defence of Canada's East and West Coasts. One squadron of Transport Command, No. 408, a photographic squadron, flew about 17,500 miles during 1954, carrying out aerial survey operations, including special aerial survey work in conjunction with the Mid-Canada early-warning radar system.

At the end of December 1954 the strength of the RCAF regular force was 8,886 officers and 39,864 men; strength of the auxiliary Air Force was 1,888 officers and 3,651 men.

Operations in 1954-55.—Air Defence Command continued its planned build-up. Work on the construction of the mid-Canada early-warning system was started. Improvements were made at all major airfields. Additional navigation aids were installed and all-weather instrument procedures developed for air defence operations. By the end of 1955 all nine regular squadrons of Air Defence Command were equipped with all-weather *CF-100* jet fighters.

The 1st Air Division is at maximum strength in Europe thus fulfilling Canada's commitment to the NATO integrated fighter force. Replacement of *Sabre II* aircraft with the more powerful Orenda-powered *Sabre V* was completed and the new *Sabre VI*'s began arriving.

The Joint Maritime Warfare School at HMCS *Stadacona*, Halifax, N.S., continued to train crews in basic and advanced anti-submarine tactics. Maritime Air Command aircrews took part in joint exercises with the RCN on both coasts and participated in a number of NATO exercises in Atlantic and European exercises. A new type of maritime aircraft, the *Neptune*, came into service.

The squadrons of Air Transport Command continued to provide air support to the Air Division in Europe and, until June 1954, to the Far East; long range air support operations were performed by *North Star* aircraft. The *Fairchild C-119* aircraft of the Command were used as cargo and personnel carriers in Canada, as well as for paratroop training. Both types of aircraft were used for supply operations to Arctic weather stations.

RCAF photographic squadron, No. 408 Squadron, completed camera coverage of additional areas under the air photography and survey program including 7,800 miles of special survey work in connection with the construction of the mid-Canada radar system.

During 1954 aircraft and marine distress missions, mercy flights and other emergencies involved the use of RCAF search and rescue aircraft on 230 occasions.

Training and Equipment.—During the fiscal year 1954-55 NATO aircrew training in Canada continued at a brisk pace. As of Dec. 31, 1954, 3,306 aircrew had been graduated under this plan since its inception in 1951. In addition the RCAF were engaged in training aircrew for their own requirements. Basic trades courses for non-flying-list officers produced 80 graduates and basic trade schools graduated 7,830 tradesmen during 1954-55.

Officers and flight cadets entering the Service received officer development training at the Officers School, London, Ont., and airmen received initial service training at No. 2 Manning Depot, St. Johns, Que. Basic flying training was conducted at flying training schools located at Centralia, Ont., Claresholm, Alta., Moose Jaw, Sask., and Penhold, Alta. Advanced flying training on twin engine aircraft was given at Saskatoon, Sask., and single engine aircraft advanced flying training at Portage la Prairie, Man.; in the autumn of 1953 the latter station began to give advanced flying training on jet aircraft. Another advanced flying school for jet aircraft is located at Gimli, Man. A Pilot Weapons School is conducted at MacDonald, Man.; flying instructor courses are given at the Flying Instructors School at Trenton, Ont.; instrument rating courses are conducted at Centralia and North Bay, Ont., and at Saskatoon, Sask., and pilot attack instructor courses are given at MacDonald, Man. In 1954 the training of radio officers and navigators was integrated to provide a common basic course in navigation and electronics at the Navigation and Radio School at Winnipeg, Man.

Formal trade courses for newly commissioned non-flying-list officers were conducted at RCAF schools in aeronautical engineering, armament supply, telecommunications and security. Basic courses for unit defence officers were conducted at Camp Borden, Ont. Courses were provided to qualify officers in flying control. *CF-100, Sabre, Silver Star* and *C-119* mobile ground training units were used with great success during the year. Trade advancement training program continued at all units, both regular and auxiliary. To help tradesmen advance more rapidly into the qualified trade group levels, quarterly written trade test boards were continued. Language training programs were conducted where necessary.

The aircraft procurement program during 1955 is dealt with under Defence Production at pp. 1170-1171.

RCAF Reserve.—The sub-components of the RCAF reserves are designated as: (1) the Auxiliary; (2) the Primary Reserve; and (3) the Supplementary Reserve.

During the year ended Mar. 31, 1955 officer development courses were conducted at the Reserve Officers School, Royal Military College, Kingston, Ont., for university flight cadets of the Primary Reserve participating in their first summer training program. Pilot trainees of the Auxiliary, members of reserve university squadrons and Services Colleges flight cadets received flying training during the year. Potential radio officers from the reserve Air Force, reserve university squadrons and Canadian Services Colleges flight cadets were trained at Clinton, Ont.

At the Reserve Officers School at Kingston, initial training for the non-flying-list primary reserve flight cadets of Canadian Services Colleges and universities, who were participating in their first summer program, was followed by basic courses in aeronautical engineering, supply, telecommunications, armament and flying control as applicable. Second year cadets were commissioned after successfully completing the final phases of their basic courses. Language and technical training at RCAF Training Command Schools was also given for instruction duties in the RCAF Auxiliary. The reserve tradesman training plan, instituted in 1952, was continued and approximately 1,855 recruits, both high school students and air cadets, completed training during 1954. Reserve tradesmen are entitled to take regular force training courses but few are able to do so because of their civilian occupations.

Ten auxiliary squadrons are maintained in Canada to provide fighter aircraft for interception duties. In addition two auxiliary squadrons are equipped with Mitchell light bombers and operate, as required, with Canada's Mobile Striking Force.

Royal Canadian Air Cadets.—The Royal Canadian Air Cadets are closely associated with the RCAF. Under the sponsorship of the Air Cadet League of Canada, the air cadet movement continued to expand. As of Sept. 1, 1955 air cadet strength stood at over 19,000 in 274 squadrons. During the summer of 1955 camps for air cadets were held at RCAF Stations at Greenwood, N.S., Clinton, Ont., and Abbotsford, B.C. More than 4,000 cadets, cadet officers and instructors attended camp. A precision drill team of 40 cadets selected from the Senior Leaders course to represent Canada in the International Drill competition held at the Canadian National Exhibition at Toronto in 1955 won the competition and the Beau International Challenge Trophy for Canada for the fifth time.

The international exchange visits program, sponsored jointly by the RCAF and the Air Cadet League, was again very successful in 1954 and 1955. Cadets were exchanged with the United Kingdom, the United States, Denmark, the Netherlands, Norway and Sweden.

Two hundred and fifty senior air cadets receive flying training annually through scholarships awarded by the RCAF. Since the inception of flying scholarships in 1946 more than 2,000 cadets have learned to fly by this means. Under the Reserve Tradesmen Training Plan air cadets receive trades training in a nine-week summer course in addition to preparatory training at their respective squadrons during the school year.

Subsection 4.—The Defence Research Board

The Defence Research Board was established on Apr. 1, 1947 by an amendment to the National Defence Act.

The Board consists of a full time chairman and vice-chairman, six ex-officio members and seven other appointed members. The ex-officio members are the Chiefs of Staff of the three Armed Services, the Deputy Minister of National Defence, the President of the National Research Council and a representative of the Department of Defence Production. The remaining members, appointed by the Governor in Council for three year terms, are selected from universities and industry because of their scientific and technical backgrounds.

The organization consists of Headquarters staff, twelve field research stations and liaison officers at London, England, and Washington, U.S.A., and is known collectively as the Defence Scientific Service. Advisory committees composed of leading Canadian scientists provide invaluable assistance to the Defence Scientific Service by their consideration of a variety of problems.

In planning this organization the Government considered the vital need for continuity in research and planned the Defence Research Board as a fully integrated and permanent part of the defences of the country. To assist co-ordination at the highest level the Chairman of the Board has the status of a Chief of Staff, and is a member of the Chiefs of Staff Committee and of the Defence Council. Thus the Defence Research Board has been described as a fourth service. Its fundamental purpose is to correlate the special scientific requirements of the Armed Forces with the general research activities of the scientific community at large.

The Board's policy is to select and concentrate its efforts upon defence problems of particular importance to Canada or for which Canada has unique resources or facilities. Existing research facilities such as the National Research Council are used wherever possible to meet the needs of the Armed Forces. The Board has built up new facilities only in those fields which have little or no civilian interest.

From the policy of specialization it follows that close collaboration must be maintained with Canada's larger partners. Specialization is made possible only through the willingness of the United Kingdom and the United States to exchange the results of their broader programs for the less numerous but nonetheless valuable benefits of Canadian research.

During 1955 the Defence Research Board conducted research activities in naval, armament, telecommunications, arctic, medical, operational, materials, aeronautical and special weapons problems. Research on naval problems is carried out at the Naval Research Establishment, Dartmouth, N.S., and at the Pacific Naval Laboratory, Esquimalt, B.C. Both stations are engaged in the study of anti-submarine devices, since anti-submarine warfare will be the prime task of the RCN in time of war. Research and

development of weapons for the Armed Services is carried out at the Canadian Armament Research and Development Establishment at Valcartier, Que. This is the largest research establishment operated by the Board and has facilities for the study of all phases of armament development. The Board operates two laboratories whose prime interest is in the field of electronics. The Radio Physics Laboratory at Shirley's Bay, Ont., is interested mainly in fundamental research associated with radio communications, particularly in northern latitudes. The Electronics Laboratory, situated within the grounds of the National Research Council's Montreal Road Laboratories, is concerned primarily with the development of electronic devices as aids to navigation. The centre for research into arctic and sub-arctic conditions is the Defence Research Northern Laboratory at Fort Churchill, Man., which is mainly occupied with the application of the results of fundamental research into the effects of cold weather on men and materials.

Medical research is conducted in Canadian universities and medical schools, as practicable, and at the Defence Research Medical Laboratories at Downsview, Ont. (near Toronto). The major emphasis is in the field of aviation medicine, but investigations include such problems as blood substitutes, infection and immunity, burns and wounds, nutrition and other factors likely to hinder a military man's ability to perform his duties effectively. Operational research, which may be defined as the application of techniques of scientific research to problems which arise in the Armed Services in the execution of their operational roles, is conducted by the Operational Research Group consisting of a headquarters section and three research sections; in addition there are three operational research organizations in the Armed Forces, staffed largely by personnel from the Defence Scientific Service. The Board continued to support active programs of research into methods of estimating, recovering and fabricating such useful metals as titanium, etc. The titanium program is a series of integrated research projects conducted by the Mines Branch of the Department of Mines and Technical Surveys and the Universities of Toronto, Laval and Montreal, in co-operation with various industrial firms with long experience in this field. In addition to aeronautical research conducted by the National Aeronautical Establishment, the Defence Research Board supports an extensive program on aeronautical and gas dynamics problems at various Canadian universities. Special weapons research is conducted in the atomic, biological and chemical fields at the Defence Research Chemical Laboratories, Shirley's Bay, Ont., the Suffield Experimental Station, Ralston, Alta., the Defence Research Kingston Laboratories at Barriefield, Ont., and at a Department of Agriculture Isolation Station located on Grosse Ile near Quebec City.

Pursuing its established policy, the Defence Scientific Service continues to make available to the scientific community at large all results of its work other than those of purely military importance.

Close liaison is maintained between the Defence Research Board and the Department of Defence Production to ensure that research and development activities are closely integrated with production.

Section 2.—Services Colleges and Staff Training Colleges

Canadian Services Colleges.—The three Canadian Services Colleges are the Royal Military College of Canada founded at Kingston, Ont., in 1876, Royal Roads which was established in 1941 near Victoria, B.C., as a school for naval officers and Collège Militaire Royal de Saint-Jean established at St. Johns, Que., primarily to meet the needs of French-speaking cadets. The Royal Military College and Royal Roads were constituted as the Canadian Services Colleges in 1948, and Collège Militaire Royal de Saint-Jean was opened in 1952.

The purpose of the instruction and training at the Services Colleges is to impart the knowledge, to teach the skills and to develop the qualities of character and leadership essential to officers of all three Armed Services. The courses of instruction provide a sound and balanced liberal, scientific and military education; the organization and training give cadets the opportunity to command and to exercise judgment.,

For cadets entering the Royal Military College and Royal Roads the course is of four years duration. As the third and fourth years of the college course are given only at the Royal Military College, cadets entering Royal Roads must proceed to that College for the final two years of the general or engineering courses. For cadets entering Collège Militaire Royal, which gives a preparatory year, the course is of five years duration. Cadets take the preparatory, first and second years at that institution and complete the final two years at the Royal Military College.

The College year is eleven months, divided into three terms: autumn, winter and summer. The months September to April are devoted to academic training supplemented by such military studies as drill and physical training. The summer term, May to mid-August, is spent in practical training at an establishment of the Service in which the cadet is enrolled. Academic requirements for admission to the first year at the Royal Military College and Royal Roads is senior matriculation (or its equivalent) in the following subjects: English, physics, mathematics (algebra, geometry and trigonometry), chemistry and either history or a language, preferably French. French-speaking candidates having a B.A. degree from a classical college may be accepted directly into the first year at Collège Militaire Royal. For admission to the preparatory year at that institution the academic requirement is junior matriculation (or its equivalent) in English, French, algebra, geometry, physics and chemistry, although consideration is given candidates who do not possess the standing in French. Candidates from the classical colleges require at least sixth year standing.

To be accepted a candidate must be single, a Canadian citizen or British subject normally resident in Canada and physically fit in accordance with the medical standards of the Service in which he enrolls. The age limits for admission to the first year are between 16 and 21 years as of Jan. 1 of the year of entry; for admission to the preparatory year a cadet must have reached his 16th but not his 20th birthday on Jan. 1 of the year of entry. Personal interview and medical examination of candidates is carried out by tri-Service boards located at six regional centres across Canada. Three officers representing the Services and a representative of the Services Colleges sit on each interview board. Fifty per cent of the cadets entering the first year at the Services Colleges are selected on the basis of provincial quotas as determined by population and the remainder are selected in open competition. The interview boards base their recommendations on the physical and personal qualifications of the candidates, with responsibility for final selection resting with a board appointed by the Minister of National Defence.

Since September 1954 virtually all cadets entering the Services Colleges have been required to enrol under the Regular Officer Training Plan. Under this plan applicants accepted for entry enrol, according to their choice, as naval cadets in the Royal Canadian Navy, as officer cadets in the Canadian Army or as flight cadets in the Royal Canadian Air Force. All costs of tuition, board, lodging, uniforms, books, instruments and other essential fees are borne by the Department of National Defence, and cadets are paid at the rate of \$55 a month. On successfully completing their academic and military training, cadets are granted permanent commissions in the regular force but may, if they so wish, apply for release after three years service following completion of academic training.

The only cadets now accepted at the Services Colleges in a reserve capacity are those who qualify for Dominion Cadetships, which are awarded by the Government in recognition of sacrifice or long service of a candidate's father. A maximum of 15 Cadetships may be awarded in any one year, five in each Service. Valued at \$580, a Cadetship covers first year fees.

During the 1954-55 academic year 834 cadets were in attendance at the Canadian Services Colleges; 401 of them attended Royal Military College, 153 Royal Roads and 280 Collège Militaire Royal de Saint-Jean. Of the total, 181 were enrolled in the Navy, 358 in the Army and 295 in the Air Force.

Staff Training Colleges.—The Canadian Army Staff College at Kingston, Ont., trains officers for staff appointments in field formations and commands. The course extends from January to November. Though most of the student body is comprised of

Canadian Army officers, officers from the other two Services and from the armies of other Commonwealth and NATO countries also attend. Canadian Army officers must pass a searching entrance examination before being considered eligible for staff training. The system of instruction is based upon the study of précis and other references, demonstrations and lectures, indoor and outdoor exercises. Most of the work is carried on in syndicates, each under a member of the directing staff. Attention is paid to both individual and team work. Aside from purely military subjects such as the study of modern tactics, the curriculum includes world affairs and lectures by prominent guest speakers.

The National Defence College at Kingston, Ont., opened on Jan. 5, 1948, is a senior defence college providing an eleven month course of study covering the economic, political and military aspects of the defence of Canada. Senior officers and civil servants from the Armed Forces and Government Departments attend as well as a few representatives from industry. An extensive lecture course is provided, with lecturers chosen from leaders in various fields in Canada, the United States, the United Kingdom and other countries. In addition educational tours and visits to certain parts of Canada, the United States, Europe and the Middle East are made to give students more knowledge of conditions and influences in their own and other countries. The ninth course, from September 1955 to July 1956, was attended by 29 students, three from the Royal Canadian Navy, four each from the Canadian Army and the Royal Canadian Air Force, one from the Defence Research Board, two from the Department of External Affairs, one each from the Department of National Defence, the Department of Trade and Commerce, the Department of Transport (Air), the Royal Canadian Mounted Police, the Canadian Broadcasting Corporation, the Bell Telephone Company of Canada and the Canadian Pacific Railway. Representation from outside Canada included one member each from the Royal Navy, the Royal Air Force, the British Army, the Foreign Office of the United Kingdom, the United States Navy, the United States Air Force, the United States Army and the State Department of the United States.

The Royal Canadian Air Force Staff College at Armour Heights in Toronto, Ont., is a permanent establishment preparing officers for staff appointments in the Air Force. The course affords advance service education for officers normally of Wing Commander and Squadron Leader ranks, fitting them for appointments appropriate to their present ranks and preparing them to assume higher appointments. The Directing Staff selected from the Royal Canadian Air Force is augmented by an exchange officer from the Canadian Army and one from the Royal Air Force. The student body in addition to Royal Canadian Air Force officers has one or two representatives each from the Royal Canadian Navy, the Canadian Army, the Royal Air Force and the United States Air Force. The objective of the course is to assist the student to think logically and express his ideas with precision both orally and in writing, to know his Service and understand the employment of air forces, to keep abreast of scientific and technical development that may affect the employment of air forces and to gain a perspective of national and international problems. Lecturers are drawn when desirable from industry, the Armed Forces, the diplomatic corps and universities. Instructional visits are made to commercial and military establishments at home and abroad.

PART II.—DEFENCE PRODUCTION*

Canada embarked on a program of defence preparedness after the outbreak of hostilities in Korea in 1950 in order to rebuild the level of her Armed Forces and to furnish them with the latest types of equipment. As a result the Department of Defence Production was established on Apr. 1, 1951 under the provisions of the Defence Production Act (R.S.C. 1952, c. 62) to procure the goods and services required by the Department of National Defence and to ensure that the necessary production capacity and materials would be available to support the defence production program. The Department also buys material for the civil defence program and serves as procurement agent for the Canadian Commercial Corporation, a Crown company primarily responsible for the purchase in Canada of

* Prepared by the Economics and Statistics Branch, Department of Defence Production, Ottawa.

defence goods required by other governments and of supplies needed to meet Canadian commitments under the Colombo Plan and other international agreements. The original legislation provided for a temporary department with an expected life of five years, but an amendment to the Defence Production Act in 1955 placed the operations of the Department on a continuing basis similar to that of other government departments.

About 62 p.c. of Canada's total defence expenditures since 1951 have been against orders placed by the Department of Defence Production and by Defence Construction (1951) Limited, a Crown company responsible for defence construction activities. By the end of 1955 the total defence orders placed on behalf of the Department of National Defence amounted to about \$5,400,000,000. The aircraft program (including miscellaneous government-furnished aircraft equipment) accounted for about 38 p.c. of this amount, by far the largest portion. Next in value was the construction program with 12 p.c., followed by electronics and communication equipment with 8.5 p.c. and ships with 7 p.c. (See Table I, p. 1173.)

During 1955 procurement and construction for Canada's defence program continued at a high level, with expenditures just over 3 p.c. below the value for 1954. This stability is attributable largely to the volume of work on programs launched in previous years which offset an appreciable drop in the value of new orders. In general the level of activity remained stable in all branches of the program.

Aircraft.—The major elements in the aircraft program during 1955 continued to be jet fighter production and development. Production continued on both the Canadian-designed *CF-100* (Canuck) all-weather interceptor and the *Sabre VI (F-86)* fighter but rate of output was reduced in conformity with the requirements of the Royal Canadian Air Force. Further development of the *CF-100* was undertaken during the year to obtain more powerful armament, greater altitude and improved manoeuvrability. Production of Series 11 and 14 Orenda jet engines for both the *Sabre* and *CF-100* aircraft also continued but at a reduced rate reflecting the reduction in aircraft output. Tooling and pre-production contracts were placed for a new Canadian-designed supersonic all-weather jet fighter, the *CF-105*, which will eventually replace the *CF-100*. A contract was concluded for the development and manufacture of prototype models of the PS-13 turbo-jet engine which will be installed in the *CF-105*. However the first *CF-105*'s to be produced will be fitted with United States J-75 jet engines.

Production of the *Silver Star* jet trainer (*T-33 AN*) powered by the Nene engine continued at a minimum rate throughout the year. An additional sustaining order for this aircraft was placed to permit production at a low rate for replacement of operational losses. The contract for the Nene engines was completed with the delivery of the last of the 50 engines produced in Canada. The *T-34* trainer program was completed in July 1955 with deliveries being made to both the Royal Canadian Air Force and the United States Air Force. Most of the labour force engaged on this program was absorbed into the production program for *Grumman CS2F* carrier based aircraft for the Royal Canadian Navy. The build-up of manufacturing facilities continued for production of the R-1820-82 engines for installation in the *CS2F*. Arrangements were completed for the entire assembly in Canada of the Hamilton Standard 43D51 propeller for the *CS2F*, and for the manufacture of certain components of this propeller.

Development and preparation for manufacture of the maritime reconnaissance *CL-28* aircraft proceeded satisfactorily in 1955 with the design of the aircraft nearing completion and much of the tooling being manufactured. In the helicopter field, purchases of *Sikorsky S-55*, *HO4S-3* and *S-58*, as well as *Piasecki H-21* helicopters were made for the Royal Canadian Navy and the Royal Canadian Air Force. The *S-55*'s were fitted with Canadian manufactured R-1340 engines.

Canadian facilities set up for the purpose of manufacturing flight instruments, remote-control gyro-compass systems, pressure indicators, transmitters, etc., were maintained, although at a reduced level in line with the cutback in production rates of aircraft. Development contracts covered such items as the R Theta automatic navigation position and homing indicator, a single-stage version of the R Theta, Ball integrators for computing navigation data, and an advanced version of the Ferranti artificial horizon. All repair

and overhaul work proceeded as expected, and phasing out of older types of aircraft and engines offset additional arisings of later models. Facilities now exist in Canada for the repair and overhaul of all aircraft, engines and related equipment currently in use by the Department of National Defence.

The development of the air-to-air guided missile "Velvet Glove" continued during 1955 and further limited production for service trials by the RCAF was undertaken. This was Canada's first missile program and it demanded the co-ordinated efforts of a number of production specialists within the Government and throughout industry. As a result of the Velvet Glove program valuable experience has been gained by the Government, its contractors and by Service evaluation teams. Although the Velvet Glove may be superseded by another air-to-air guided missile the benefits gained from this program will facilitate the development of production in Canada of new types of missiles.

Electronics.—The procurement and production of electronic equipment for the Canadian Armed Forces and for Allied countries continued at a high level in 1955. Considerable planning was undertaken of those electronic items involving special military specifications or requiring special production facilities. The development of an ultra high frequency (UHF) airborne radio set proceeded satisfactorily, and orders were placed for an airborne transmitter-receiver and direction finding equipment. Production of the one mile radio set and the radio navigational compass was completed and production of a new five mile radio set started. Fixed airborne and shipboard radars were produced throughout the year and new contracts were placed for airborne equipment and large ground radars as well as for the production of radar counter-mortar equipment. The anti-submarine detection program was further advanced with the placing of orders for sonar and harbour defence equipment. Contracts were also placed for the production and conversion of flight simulators and the production of proximity fuses continued throughout the year.

A large program was undertaken to provide spares and maintenance for the Pinetree radar system. Also, many of the major orders for equipment for the mid-Canada early-warning line were placed during 1955 and active expediting was undertaken. An installation program was drawn up and discussed with major contractors. In accordance with the Canadian-United States agreement covering the Distant Early Warning (DEW) line which is being financed by the United States Government, assistance was given to the management contractor in procuring equipment and services in Canada for this project. Substantial contracts have been awarded to Canadian companies for construction work, steel towers and airlift services.

Shipbuilding.—The keels of five of six MCB-class coastal minesweepers were laid in 1955. These ships are an advanced version of the Canadian-designed AMC-class minesweepers which were completed in 1954 and are designed to cope with the latest known developments in mines. The last three of the first program of 16 World War II frigate conversions were completed during the year; these ships are completely new except for propulsion and auxiliary machinery and the bare hull up to deck level. Work continued on the second program of five ships to undergo similar conversion, the demolition work being complete and reconstruction well advanced at the end of 1955.

The lead ship of the first group of seven destroyer escorts, HMCS *St. Laurent*, successfully underwent sea trials and was commissioned on Oct. 29, 1955. The hulls of the other six vessels were launched in preparation for the fitting of propulsion machinery and auxiliaries. Three hulls of the second group of seven destroyer escorts were launched. A total of 35 auxiliary craft and 57 small boats were under construction during the year; eleven of the auxiliary craft were completed and all but ten of the small boats.

Construction progressed rapidly in Northern Ireland on the light fleet carrier HMCS *Bonaventure*, and fitting-out advanced well during the year. Delivery of the Mark 30 and Mark 32 torpedoes was completed in 1955, although some ancillary items had not been completely shipped by the end of the year. Orders were placed for a quantity of Mark 43 torpedoes for delivery to the RCN and the RCAF. The refit and overhaul of ships, performed mainly in East Coast and West Coast shipyards, increased during the year with more naval vessels in operation. The longterm degaussing program to provide all Canadian ships with anti-magnetic equipment was virtually completed.

Weapons and Ammunition.—Deliveries were completed in 1955 on one of two types of anti-submarine mortars ordered for the Royal Canadian Navy, and on the medium mortars for the Canadian Army. Deliveries were made on howitzers and light mortars for the Canadian Army, on the second submarine mortar for the RCN and on the conversion of machine guns for the RCAF. Production of the new rocket launcher for the Canadian Army was well advanced by the end of the year. The Department of National Defence announced in June 1955 that the new 7.62mm C-1 rifle was being adopted by the Canadian Army, and an order was subsequently placed for the first quantity from Canadian production. Good progress was made on development contracts for the adaption of other small arms to the new cartridge, the design of torpedo tubes and the improvement of existing weapons. In addition to work on the weapons themselves, a number of projects were devoted to the study of sighting, fire control and other ancillary equipment.

Production of complete rounds of ammunition increased both in volume and in variety during 1955, although delivery schedules were adjusted early in the year to stretch out some existing orders. The main items of production included .30, .50, and 20mm small arms ammunition, 40mm, 60mm, 81mm, 90mm, 105mm, 155mm, and 3"50 cal. artillery and mortar ammunition, anti-tank and air-to-air rockets, depth charges, flares, signals, explosives and chemicals. New items reaching volume production included Heller anti-tank rockets, smoke shells, mortar training ammunition, a new type of anti-submarine projectile and 17 pdr. ammunition. A number of new types of ammunition, of both Canadian and foreign design, underwent either design development or pre-production trials, and progress was made in the build-up of component production on other new items.

General Purchasing.—The principal objects of the general purchasing program are the clothing, equipping, feeding, maintaining and servicing of the Canadian Armed Forces, and the purchase of certain supplies for the Defence Research Board and the Inspection Services of the Department of National Defence. During 1955 these general purchases of supplies and services not normally requiring special production facilities included such items as: textiles and all types of clothing; footwear and leather goods; military patterns, standard and special commercial vehicles together with replacement parts; the repair and reconditioning of all types of Service vehicles; food and catering services; furniture and furnishings; petroleum products and hard fuels; medical and dental supplies; research and development projects; building supplies; and all types of barrack stores.

Major orders placed during 1955 included electric generating sets for *CF-100* and *F-86* fighter aircraft, electric distribution transformers for Camp Gagetown, N.B., prototypes and drawings for steel shipping cases for aero engines, shipboard cable for the destroyer escort program and for normal maintenance needs, and motor generating sets for the conversion of World War II frigates from direct to alternating current. Standard packaging methods were developed and a re-packaging program undertaken to obtain more efficient use of space in the Department's cloth warehouse by eliminating wide variations in the packing of fabrics.

There was an increase in 1955 in the number of orders placed by the district purchasing offices in Canada to meet the needs of units of the Canadian Armed Forces stationed in the corresponding areas. These local purchases are generally small in value but involve the letting of a very large number of contracts to meet local and urgent needs, mainly for food, hardware, electrical and building supplies, barrack stores and many types of services.

Orders and Expenditures.—In 1954 the value of new orders and amendments exceeded the value of expenditures but in 1955 expenditures were more than one-third greater than net defence orders. In the earlier year, the net value of orders placed was particularly high as a result of large longterm contracts for increased numbers of *CF-100* and *F-86* jet fighter aircraft and for engineering, tooling and production of the *CL-28* maritime reconnaissance aircraft, and the 1955 figure of \$726,000,000 was about 40 p.c. lower. The largest decline in 1955 was the almost \$500,000,000 decrease that occurred in the aircraft program; orders for aircraft and related equipment accounted for only 23 p.c. of the total value of orders compared with 54 p.c. in 1954. Other important declines took place in the tank-automotive and ammunition and explosives programs. On the other

hand the value of orders increased noticeably in the construction, shipbuilding and weapons programs. Construction was affected by increased activity at Camp Gagetown and by work on the mid-Canada early-warning radar line. Increasing financial commitments in connection with the construction of destroyer escorts contributed to the rise in the net value of orders placed under the shipbuilding program; the large contract with Canadian Arsenals Limited for tooling and production of the new standardized 7.62mm C-1 rifle was an important factor in raising the level of orders under the weapons program.

The relatively small decline in expenditures to \$975,000,000 from \$1,000,000,000 in 1954 reflected defence production activity on orders placed before 1955. Declining expenditures occurred in most of the major programs, the exceptions being construction, electronics and communication equipment, and ammunition and explosives. With more military equipment in operation and increased fuel requirements associated with the mid-Canada line, expenditures on fuels and lubricants rose in 1955. There was no significant change however in the relative share of total expenditures attributable to each program. The outlay on the aircraft program continued to represent approximately two-fifths of the total.

Over the past few years, the ability of Canadian industry to produce a greater variety of defence items has made it possible to place a larger proportion of defence orders within the country. In 1955 only 4 p.c. of the net value of orders issued was placed outside of Canada, whereas in 1954 about 11 p.c. was placed abroad. Orders placed abroad were for items which could not be produced economically in Canada within the limits of current and anticipated defence requirements.

1.—Net Value of Canadian Government Defence Orders by Program 1954 and 1955 with Cumulative Totals from 1951

NOTE.—Includes construction contracts placed by Defence Construction (1951) Limited.

Program	1954	1955	Total Apr. 1, 1951- Dec. 31, 1955
	\$'000	\$'000	\$'000
Aircraft.....	664,364	169,281	2,072,111
Ships.....	66,221	73,639	379,207
Tank-automotive.....	56,407	13,642	261,651
Weapons.....	17,202	39,379	184,591
Ammunition and explosives.....	41,401	2,448	283,516
Electronics and communication equipment.....	84,507	87,506	462,976
Fuels and lubricants.....	43,847	51,405	199,594
Clothing and equipage.....	14,364	25,267	232,908
Construction.....	102,176	134,478	643,956
Other.....	130,889	129,148	679,765
Totals.....	1,221,378	726,194	5,400,275

2.—Canadian Government Defence Expenditures by Program 1954 and 1955 with Cumulative Totals from 1951

NOTE.—Includes expenditures against construction contracts placed by Defence Construction (1951) Limited.

Program	1954	1955	Total Apr. 1, 1951- Dec. 31, 1955
	\$'000	\$'000	\$'000
Aircraft.....	409,075	378,580	1,872,481
Ships.....	91,304	82,144	393,046
Tank-automotive.....	52,523	35,024	250,924
Weapons.....	28,191	23,455	116,371
Ammunition and explosives.....	56,494	60,371	193,221
Electronics and communication equipment.....	96,321	104,659	490,462
Fuels and lubricants.....	44,740	47,886	180,234
Clothing and equipage.....	20,588	18,707	231,279
Construction.....	94,774	111,653	652,308
Other.....	115,189	111,505	560,671
Totals.....	1,009,200	974,590	4,850,996

Industry and Defence.—The Minister of Defence Production is responsible for organizing and mobilizing the resources of Canada, including the co-ordination of economic and industrial facilities, in order to meet the current and prospective needs of defence. The general economic background against which the defence production program is carried out must be taken into account as the strength of the defence production base depends, to a large extent, on the general condition of the national economy. The equipment demands of the Armed Forces affect virtually all sectors of industry in varying degree and the rate of innovation in modern defence equipment is such that a broad and responsive industrial base is essential. The striking economic advance achieved in 1955 indicates the ability of the Canadian economy to meet future defence needs.

During 1955 developments continued in most sectors of defence industry which insured facilities and skills needed to meet the new requirements of the Armed Forces and which reduced the degree of dependence on foreign sources for strategically important equipment and components. Production development advanced in connection with the *CF-105* supersonic interceptor, the *PS-13* jet engine and the *CL-28* maritime reconnaissance aircraft programs. The broadening of Canadian ammunition capacity was continued, particularly in the fields of propellants and steel cartridge case manufacture. Surveys of probable electronic requirements were undertaken in order to assist industry in calculating the practicability of establishing facilities for the production of certain strategic components, and Canadian facilities for the manufacture of klystron and magnetrons were created in 1955. Major electronic developments on which progress continued to be made included the airborne guided missile program, a complex electronic simulator for use in naval tactical training, sonar domes for anti-submarine protection, and various types of data processing devices. A large part of the preparatory work was completed for the production of the new 7.62mm rifle.

During 1955 manufacturers were encouraged to invest their own capital in the production facilities needed for these new developments, this encouragement often taking the form of protection in the event of early termination of contracts, or of additional capital cost allowances for income tax purposes (accelerated depreciation) on capital expenditures incurred by contractors for the purpose of carrying out defence work. A number of important Crown assets were sold to the management companies but in all such sales a condition was attached requiring that the facilities be available for a minimum period of ten years to meet any defence production requirements that may arise. New investment of public funds in the form of capital assistance was lower in 1955 than during 1954 and, with the exception of capital investment in Canadian Arsenals Limited plants, was mainly for those highly specialized types of equipment for which limited requirements precluded the recovery of capital cost. Capital assistance projects approved in 1955 amounted to only \$1,800,000, slightly less than one-half the total approved in 1954.

3.—Net Value of Capital Assistance Projects Approved by the Department of Defence Production 1954 and 1955 with Cumulative Totals from 1951

Program	1954	1955	Total Apr. 1, 1951- Dec. 31, 1955
	\$'000	\$'000	\$'000
Aircraft.....	512	405	103,296
Ships.....	132	19	18,806
Weapons.....	14	1,262	10,823
Ammunition and explosives.....	46	—	24,836
Electronics and communication equipment.....	415	66	3,339
Other.....	2,650	62	15,817
Totals.....	3,769	1,814	176,917

Throughout 1955 attention continued to be given to the maintenance of defence production capacity, as a guarantee of future availability, for those defence supplies for which initial requirements had been met. The Department has, where possible, encouraged contractors to develop commercial work to which defence production facilities may be readily converted. Where the timing of Service requirements permits, facilities have been maintained in operation by stabilizing production over an extended period at lower rates of output. Adjustments of this type were made in 1955 in the aircraft program, in line with the requirements of the RCAF. It has been considered advisable to maintain certain facilities intact on a standby basis such as in the field of metal components for ammunition and certain shell making facilities. In the absence of such arrangements, certain production lines have been permitted to lapse and the Crown-owned capital assistance assets and production tooling have been recovered. In each case a survey was made to determine whether the Crown-owned equipment could be transferred to other programs, should be retained in storage for future use, or declared surplus on the grounds that it is beyond economical repair or obsolete to present-day production methods.

A priority list was completed of machine tools which would be required for immediate production in the event of an emergency, and a number of machine tools were rehabilitated in 1955.

Since the inception of Canada's Mutual Aid contributions to NATO each annual program has included a quantity of new defence equipment shipped directly to European NATO countries from Canadian production lines. In selecting these direct production items for transfer as mutual aid, consideration has been given to the possibility of developing and maintaining production runs in Canada which could not be achieved on the basis of the requirements of the Canadian Armed Forces alone. Although the major aim is to help European members of the alliance to meet their equipment needs, the Mutual Aid Program has added certain elements of strength to the Canadian industrial base and has prevented the disruption of highly specialized production.

During the early part of 1955 defence contractors experienced no major difficulties in obtaining adequate supplies of materials. Subsequently however the defence program felt the effects of a number of shortages. Early in the third quarter a shortage developed in steel. New demands for structural steel for the mid-Canada and Distant Early Warning lines and for an extensive program of expansion in the uranium industry contributed to this situation. Increased demand for steel imports from the United States coincided with the development of shortages in that country similar to those in Canada and as a result supplies became increasingly dependent on allotments under the United States Defence Materials System. Aluminum was in generally short supply throughout 1955. However the impact on the defence program was slight as aircraft manufacturers, the largest defence users of aluminum, had sufficient stocks on hand to meet their needs. Although copper was in short supply in the United States no shortages were experienced in Canada as producers made available sufficient prime metal to keep Canadian mills running at capacity. Throughout 1955 the response of Canadian suppliers to all informal requests for materials needed in the defence production program was such that all requirements were filled satisfactorily without undue disruption to production schedules.

PART III.—CIVIL DEFENCE

The accelerating threat of aggression that began shortly after the completion of demobilization following World War II made necessary the reorganization of military strength. It also made apparent the need for the development of a plan of civil defence as part of Canada's program of defence against direct attack. Thus in October 1948 the Minister of National Defence appointed a Co-ordinator of Civil Defence whose task it was to prepare such a plan. To assist in the co-ordination of the planning, an interdepartmental committee—the Federal Civil Defence Planning Committee—was established as well as a Federal-Provincial Advisory Committee composed of the Federal Minister responsible for civil

defence as Chairman and each Provincial Minister responsible for civil defence as members. In February 1951 the administration of civil defence was transferred from the Department of National Defence to the Department of National Health and Welfare.

The Canadian plan was developed after study of similar organizations in the United Kingdom, western Europe and the United States. It was agreed that civil defence organization should be incorporated within the framework of civil government at each level—federal, provincial and local—each with its own sphere of responsibility. In general each province is self contained and is divided into a number of areas, with the fundamental idea of mutual support to any disaster region; some areas are organized on a basis of mobile support and reception only. The channel of communication is from the federal authority to provincial authority and thence to local authority.

The Federal Office of Civil Defence consists of the Civil Defence Co-ordinator and the following services: operations and training; administration and supply; health planning; welfare planning; information; communications and transportation. A number of other federal departments are involved in planning, such as the Royal Canadian Mounted Police, the Department of Agriculture, the Department of Transport and the Defence Research Board.

In co-operation with the Royal Canadian Air Force, an early warning system has been established in the more vulnerable areas where sirens have been provided by the Federal Government. In co-operation with the Departments of National Defence and Veterans Affairs a program of stockpiling medical supplies and equipment is in progress across Canada.

A Federal Civil Defence Training School was started in January 1951 at which courses were given for organizers, general and rescue instructors and radiological monitors. In March 1954 this school, renamed the Canadian Civil Defence College, was set up in permanent location at Arnprior, Ont., and courses have been continued and expanded into such fields as tactics, emergency feeding and accommodation, technical reconnaissance and disaster studies. A number of specialist courses have been conducted across the country by the Health Planning Group.

Up to the end of July 1955, 6,682 persons had received training in one or other of these various fields. First Aid training for civil defence workers is undertaken by the St. John Ambulance Association under an agreement between the Federal Government and the Association whereby the Government pays a per capita grant. Other agreements for co-operation are in force between the Federal Government and the Canadian Red Cross Society, the Canadian Legion and the Boy Scouts Association.

A Financial Assistance Program is in operation which provides each province with a quota of money based on population and vulnerability in which 50 p.c. of the cost is contributed by the Federal Government to approved projects shared between a municipality and a province. A minimum of 25 p.c. is contributed direct to a municipality for a similar project in which the provincial government does not share. Also, the Federal Government has offered to bear one-third of the cost of standardizing fire-hose couplings. By the end of 1955 the Provinces of Ontario, Alberta and British Columbia had accepted the offer and were proceeding with a standardization program. Large quantities of training equipment including rescue and fire fighting vehicles have been provided by the Federal Government to the provinces in order to foster their training programs. Draft agreements have also been forwarded to all provinces, on an equal basis, in paying workmen's compensation, where necessary, to a civil defence worker; an agreement to this effect has been signed with the Provinces of Ontario, British Columbia and Alberta.

Up to the end of March 1954, 24 civil defence manuals were published by the Federal Civil Defence authorities to assist in the organization, training and general education of civil defence personnel, and nine others were in preparation. In addition to these a considerable amount of guiding literature was issued to assist provincial and local governments.

Each province has developed its own civil defence organization patterned on that of the Federal Government. Certain provinces have conducted civil defence training courses, similar to those of the Federal Government, with the object of training local instructors and key personnel.

Many of the main centres of population have made considerable advances in organization and training. An estimated 179,185 civil defence workers for the whole of Canada were reported on strength as at Mar. 31, 1955.

In 1951 an agreement was made between Canada and the United States whereby each country pledged itself to go to the assistance of the other in the event of attack and a United States-Canada Civil Defence Committee was set up. A number of working groups were also formed to carry out specific tasks in the development of ways and means of carrying out this agreement. The Provinces of Canada too have discussed with adjoining States of the United States the working out of their mutual problems. Close liaison is maintained with the United Kingdom and other NATO countries.

CHAPTER XXIX.—SOURCES OF OFFICIAL INFORMATION AND MISCELLANEOUS DATA

CONSPECTUS

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SECTION 1. FEDERAL GOVERNMENT INFOR- MATION SERVICES.....	1178	Part IV.—Federal Legislation 1955.....	1229
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PART I.—SOURCES OF OFFICIAL INFORMATION

Section 1.—Federal Government Information Services

The chief source of statistical information on all phases of the economy of Canada is the Dominion Bureau of Statistics where the ten year and five year censuses of Canada are planned and statistical information of all kinds—federal and provincial—is centralized. Information that is not mainly statistical may be secured from the individual Department concerned with the particular subject as indicated in the Directory at pp. 1183-1212. Certain Government bodies and national agencies, because of the nature of their work and the appeal it has to broad sections of the population, are organized primarily as information or publicity agencies. Among these are: the Information Division, Department of External Affairs, which deals with questions about external affairs originating in Canada and with general requests originating abroad for information on Canada and Canadian affairs; the Information Branch, Department of Trade and Commerce; the Information Services Division, Department of National Health and Welfare; the Canadian Broadcasting Corporation; and the National Film Board. (*See Index.*) The Departments of Agriculture, Northern Affairs and National Resources, and Mines and Technical Surveys, while not thus classed, are interested in the dissemination of information to a greater extent than most of the remaining Government Departments, though several of the latter have publicity branches or public relations divisions.

Government Departments, with few exceptions, issue their own lists of reports and publications. Departments are required by statute to publish annual reports, which are tabled each year in the House of Commons by their respective Ministers. However for the purpose of this Section, only the services of the six information agencies mentioned above are described.

Section 2 has been prepared for the purpose of presenting to the reader a directory of all sources of information, federal and provincial, thereby directing him to the proper channels from which he may draw material relating to any particular subject.

The Dominion Bureau of Statistics.—The Dominion Bureau of Statistics was set up by statute in 1918 as a central statistical department for Canada (8-9 Geo. V, c. 43). In 1948 this statute, which had been consolidated as the Statistics Act (R.S.C. 1927, c. 190), was repealed and replaced by the Statistics Act (R.S.C. 1952, c. 257), subsequently amended in March 1953 (1-2 Elizabeth II, c. 18).

The chief aims of the Dominion Bureau of Statistics are: (1) to furnish statistical data bearing on Canada, for government and administration, whether municipal, provincial, national or international; and (2) to assist in meeting the needs of non-governmental users of statistics, arising from a growing awareness of the value of statistics to business efficiency and social security.

Inquiries.—Hundreds of individual requests for information are received in the Bureau each day, routed through the appropriate divisions and answered as expeditiously as possible. Since the field of effort from the statistical side deals with all phases of the national economy, there is scarcely a subject upon which the Bureau is not able to give some information. Nevertheless only inquiries of a statistical nature should be directed to the Dominion Bureau of Statistics.

Publications.—The Dominion Bureau of Statistics is the principal publication agency of the Federal Government; the subjects of its reports cover all aspects of the national economy.

The policy with regard to the distribution of publications is to extend the service to the public as widely as possible at a minimum cost. A special subscription rate of \$30 per annum entitles a subscriber to receive, as issued, a copy of each report, including the D.B.S. *Daily Bulletin*. Statistical information not of general interest is published in the form of Reference Papers or Memoranda for which additional annual subscription rates of \$5 and \$15 respectively are charged.

A complete list of DBS publications is available from the Dominion Statistician. Orders for reports should be sent to the Dominion Bureau of Statistics, Ottawa, giving the correct title or titles of the publication or series of reports in which the applicant is interested and should include the necessary remittance in the form of a cheque or money order made payable to the Receiver General of Canada.

Information Division, Department of External Affairs.—The Information Division has two functions: to promote within Canada interest in and knowledge of international affairs, and to make Canada and Canadian policies better known and understood abroad.

To perform the first function the Division produces and distributes various documents on external affairs—statements of government policy and reports on related developments abroad and on the work of the Department generally. The Division also answers inquiries from Canadian sources on these subjects (except for inquiries from the press which are handled by the Department's Press Office) as well as requests for information about Canada made by Diplomatic Missions at Ottawa, by Canadian posts abroad, and by individuals and organizations in other countries.

Most of the information work abroad is done however by officials at Canadian posts. The Information Division assists by formulating and advising on information policy abroad in an effort to ensure that this policy is related to the general objectives of Canadian foreign policy, and by producing and procuring material to keep Missions informed of developments within Canada. Journalists and others who visit Canada to write of Canadian affairs are given assistance from time to time by the Division; its responsibilities also include the co-ordination of the Government's activities in the field of cultural relations.

Information Branch, Department of Trade and Commerce.—For details see p. 1023.

Information Services Division, Department of National Health and Welfare.—The responsibility of this Division, in co-operation with other divisions of the Department of National Health and Welfare and provincial authorities, is the production and distribution of educational material on health, welfare, social security and civil defence, for use throughout the country. This information, issued in the English and French languages, includes books, pamphlets, periodicals, posters, exhibits, displays, radio dramatizations, press and magazine features and releases, as well as films and film-strips prepared in co-operation with the National Film Board. Books, pamphlets, posters and displays are distributed in Canada through provincial authorities. The most important periodicals published by the Division are *Canada's Health and Welfare* (monthly), *Canadian Nutrition Notes* (monthly), *Occupational Health Bulletin* (monthly), *Industrial Health Review* (semi-annually) and *Nutrition Bulletin* (annually).

Canadian Broadcasting Corporation.—Radio broadcasting is an important medium of information to the public along with newspapers, films and other means of communication. Radio broadcasting in Canada combines, in one national system, publicly owned stations and privately owned local community stations, many of which are affiliated with the Canadian Broadcasting Corporation's networks.

Since its establishment in 1936 the Canadian Broadcasting Corporation has become one of the most effective channels through which information, official and unofficial, is broadcast to the people of Canada. Radio is relatively more important in Canada than in most countries because of the widely distributed population and the number of sparsely peopled areas, and the CBC has gradually bridged the gaps with high-powered transmitters designed to serve rural as well as urban areas. The CBC has also pioneered in the development of low-powered repeater stations attached to the network lines, which serve areas unable because of topographical conditions to receive an adequate signal from any existing station.

News broadcasts and information programs occupy a considerable proportion of national and regional network time. All CBC schedules include news, music, drama, informative talks, children's programs, school broadcasts, public service broadcasts, sports, women's activities, etc. Listeners have a very wide range of radio fare, since the CBC not only produces its own programs in the various production centres across Canada but brings in selected programs from the networks in the United States, the British Broadcasting Corporation and other national radio systems. The CBC maintains a bureau at London, England, and at United Nations Headquarters in New York, and is credited with having done more to inform listeners of the United Nations' activities than any other broadcasting system.

Through the International Service operated by the CBC on behalf of the Canadian Government, programs are broadcast over shortwave in fifteen languages: English, French, German, Dutch, Danish, Norwegian, Swedish, Italian, Spanish, Portuguese, Czech, Slovak, Russian, Ukrainian and Polish. The CBC International Service broadcasts information abroad on life and economic conditions in Canada as part of the general information plan for promoting a better understanding of Canada in other countries. In addition to its shortwave broadcasts the CBC International Service has developed a transcription service and recorded programs in English, French and Spanish as well as Canadian musical transcriptions are at the disposal of radio networks and stations all over the world.

National Film Board.—The National Film Board provides information on a great variety of subjects in the form of films, film-strips and still photos. In keeping with its terms of reference the Board's products are both informative and interpretative and are widely distributed, theatrically and non-theatrically. (See also Educational and Cultural Functions of the National Film Board, p. 365.)

As a service to government departments, the Board maintains a film preview library of 4,000 prints where films may be screened with a view to purchase or for informational purposes; some 500 film-strips are catalogued. The Board also maintains libraries of films on such specialized subjects as health, sociology, medicine and industry.

Films produced and distributed by the Board are shown on motion picture and television screens all over the world. In Canada widespread distribution is achieved by circulating films on a circuit arrangement whereby the users themselves keep the films moving on to the next showing point. Public libraries and other film depots assist distribution by maintaining film libraries for public use. More than 20,000 prints are in circulation abroad through posts of the Departments of External Affairs and of Trade and Commerce, through the Board's offices in New York and Chicago in the United States and in London, England, as well as through other loan agencies.

The Board's library of approximately 100,000 still photos serves government departments, commercial photographers and newspapers and periodicals in Canada and abroad.

Section 2.—Directory of Sources of Official Information (Federal and Provincial)

To make the best use of the Directory of Sources of Government Official Information, it is necessary that the reader understand the broad differences in function between federal and provincial departments and their separate fields of work.

Certain fields of effort, such as trade and commerce, customs and excise, currency and banking, navigation, transportation, radio, census of population, national defence, etc., are constitutionally federal affairs and in such fields the respective Departments at Ottawa are the proper sources with which to communicate. Other fields of effort such as the administration of lands and natural resources, education, roads and highways, and health and hospitals are the responsibility of the provinces but certain Federal Departments are also concerned with specific aspects of these subjects and, as is the case of Dominion Bureau of Statistics, in the co-ordination and presentation of the material for Canada as a whole.

As a general guide to the public, it may be pointed out that questions relating to the actual development and administration of resources should be forwarded to the particular provinces concerned. The Federal Government, while not administering the resources within provincial boundaries, co-operates closely with the provinces and is in a position to furnish material for Canada, especially production data on a national basis, marketing data on international, national and provincial bases, research work and experimental station data on a national basis, and also on a provincial basis from Federal Government stations located within particular provinces. In agriculture for instance data on the breeding of livestock and the improvement of strains, on agricultural marketing and on crop yields are cases in point; in forestry, questions of forest research, forest fire protection and reforestation offer good examples. Inquiries directed to federal sources for information not of a statistical nature should as a general rule be sent to the individual Departments listed in the Directory; inquiries for information of a statistical nature should be addressed to the Dominion Bureau of Statistics, Ottawa.

Under the provisions of the Public Printing and Stationery Act, the Queen's Printer and Controller of Stationery has charge of the sale of all official publications of Parliament and the Government of Canada that are issued to the public, as well as of the free distribution of all public documents and papers to persons and institutions (libraries) entitled by statutory provisions to receive them.

The regulations relating to the distribution and sale of government publications made in accordance with the provisions of Sect. 7 of the Public Printing and Stationery Act and Sect. 7 (e) of the Financial Administration Act were brought up to date and approval signed by Treasury Board on Mar. 31, 1955.

In compliance with these regulations, the Queen's Printer and Controller of Stationery issues the *Daily Checklist of Government Publications* which records for the information of the public service, libraries, etc., all Federal Government publications immediately upon release. Those authorized by law or regulation to receive free copies of government publications receive the *Daily Checklist* without charge; others desiring the service may purchase an annual subscription to be forwarded daily or in weekly batches as requested.

The Queen's Printer and Controller of Stationery also issues the *Monthly Catalogue of Canadian Government Publications*, a comprehensive listing of all official publications, public documents and papers not of a confidential nature published at government expense, an *Annual Catalogue* (in January) listing all publications issued during the previous year, as well as sectional catalogues and selected titles bulletins advertising new government publications.

Most provincial government printed publications may be obtained from the Queen's Printer of the province concerned. Inquiries should be addressed to the provincial capital cities:—

Newfoundland.....	St. John's	Ontario.....	Toronto
Prince Edward Island...	Charlottetown	Manitoba.....	Winnipeg
Nova Scotia.....	Halifax	Saskatchewan.....	Regina
New Brunswick.....	Fredericton	Alberta.....	Edmonton
Quebec.....	Quebec	British Columbia.....	Victoria

Inquiries about the Yukon and Northwest Territories should be addressed to the Northern Administration and Lands Branch, Department of Northern Affairs and National Resources, Ottawa.

(Detailed Directory of Sources of Official Information follows, pp. 1183-1212.)

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION

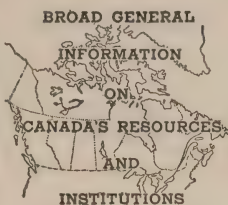
Sources for Federal Data

Dept. of Trade and Commerce
Information Branch
Dominion Bureau of Statistics
Dept. of Mines and Technical Surveys
Editorial and Information Division
(for mineral resources)
Dept. of National Health and Welfare
Information Services
Dept. of Northern Affairs and National Resources
Editorial and Information Division
Dept. of External Affairs
Information Division (general requests originating in all countries outside Canada)
Dept. of Citizenship and Immigration
Editorial and Information Division
Dept. of Fisheries, Information and Educational Service
National Film Board (films, filmstrips, photographs on all subjects)
National Research Council
Public Relations Branch
Dept. of Transport
Information Bureau

Dept. of Agriculture
Information Service
Experimental Farms Service
(branch farms throughout Canada)
Dept. of Trade and Commerce
Agriculture and Fisheries Branch
Dept. of Northern Affairs and National Resources
(Yukon and Northwest Territories)
Dept. of Citizenship and Immigration
Indian Affairs Branch
Dept. of Labour (immigration and movement of farm workers)
Dept. of Veterans Affairs (veterans only)
Dept. of Finance (farm improvement loans)
Canadian Farm Loan Board (long-term mortgage loans)
Central Mortgage and Housing Corporation (long-term mortgage loans for new farm houses)
National Film Board (films, photographs)
Dominion Bureau of Statistics

National Film Board (films, filmstrips and photographs)
Dept. of Citizenship and Immigration
Indian Affairs Branch
Dept. of Mines and Technical Surveys
Editorial and Information Division
Geological Survey of Canada
Surveys and Mapping Branch
Geographical Branch
Dept. of National Defence
Director of Public Relations
Directorate of Public Relations
(Defence Research Board)
Dept. of National Health and Welfare
(health services)
National Research Council
Division of Building Research
(permafrost, buildings in the north, snow and ice)
Dept. of Northern Affairs and National Resources
Editorial and Information Division
Arctic Division
Dept. of Transport (Arctic navigation)
Dept. of Fisheries
Fisheries Research Board of Canada

Subject



AGRICULTURE General and Farming

ARCTIC

Sources for Provincial Data

For broad general information in regard to particular provinces application should be made to: Nfld., Dept. of Provincial Affairs; P.E.I., Tourist and Information Bureau; N.S., Dept. of Trade and Industry; N.B., Dept. of Industry and Development or Dept. of Provincial Secretary-Treasurer or N.B. Travel Bureau; Que., Bureau of Statistics; Ont., Bureau of Statistics and Research or Dept. of Travel and Publicity; Man., Dept. of Industry and Commerce and Dept. of Provincial Secretary; Sask., Provincial Secretary, Bureau of Publications, or Executive Council, Industrial Development Office, or Economic Advisory and Planning Board; Alta., Publicity Bureau, Dept. of Economic Affairs; B.C., Bureau of Economics and Statistics.

Nfld.: Dept. of Mines and Resources
P.E.I., N.S., N.B., Sask.:—Depts. of Agriculture
Que.:—Dept. of Agriculture, Information and Research Branch
Dept. of Trade and Commerce
Bureau of Statistics
Ont.:—Dept. of Agriculture, Statistics and Publication Branch
Man.:—Dept. of Agriculture and Immigration, Publications Branch and Extension Service
Alta.:—Dept. of Agriculture
B.C.:—Dept. of Agriculture, Dept. of Trade and Industry, Bureau of Economics and Statistics
Dominion Bureau of Statistics (summaries of provincial data)

Sask.:—Dept. of Natural Resources, Northern Administration District

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Mines and Technical Surveys Dominion Astrophysical Observatory, Victoria, B.C. Dominion Observatory, Ottawa, Ont. National Research Council Division of Radio and Electrical Engineering (radio astronomy)	ASTRONOMY	Sask.:—University of Saskatchewan, Saskatoon Alta.:—University of Alberta, Edmonton
Dept. of Mines and Technical Surveys Geological Survey of Canada Mines Branch Atomic Energy Control Board (policy, regulations) Atomic Energy of Canada Limited (research studies, sale of radio-isotopes) Eldorado Mining and Refining Limited National Film Board (films)	ATOMIC ENERGY	Sask.:—University of Saskatchewan, Saskatoon Alta.:—Alberta Research Council, University of Alberta Campus, Edmonton
Dept. of Transport Civil Aviation Division (controls, licences and facilities, such as radio aids and licences) Air Transport Board (licensing of commercial air services and the economic regulation of such air services) Bureau of Transportation Economics Trans-Canada Air Lines Dept. of National Defence Directorate of Public Relations (RCAF) Dept. of National Health and Welfare Civil Aviation Medicine Division Dept. of Defence Production Aircraft Branch Dept. of Mines and Technical Surveys Legal Surveys and Aeronautical Charts Division National Film Board (films and photographs) National Research Council Division of Mechanical Engineering (aeronautical research) Dominion Bureau of Statistics	AVIATION	Ont.:—Dept. of Lands and Forests, Air Service Man.:—Manitoba Government Air Services Sask.:—Saskatchewan Government Airways
Bank of Canada Industrial Development Bank Dept. of Finance Dept. of Insurance (for trust and loan business, administers also the Small Loans Act) Central Mortgage and Housing Corporation Post Office Department, Savings Branch Dominion Bureau of Statistics (summary statistics)	BANKING Trust and Loan Companies	Nfld.:—Dept. of Finance Supreme Court Registry of Deeds P.E.I., N.S.:—Dept. of Provincial Secretary N.B.:—Dept. of Provincial Secretary-Treasurer Que.:—Dept. of Finance, Insurance Branch Dept. of Trade and Commerce Bureau of Statistics Ont.:—Province of Ontario Savings Office Attorney-General, Dept. of Insurance Sask.:—Provincial Secretary, Registrar of Securities Dept. of Co-operation and Co-operative Development, Credit Union Services Alta.:—Government of Alberta Treasury Branches B.C.:—Dept. of Finance, Inspector of Trust Companies
Dept. of Justice Superintendent of Bankruptcy Dominion Bureau of Statistics	BANKRUPTCY	Sask.:—Provincial Secretary

Sources for Federal Data

Subject

Sources for Provincial Data

National Library (Public Archives),
Ottawa

National Library will give information *re* books in libraries of federal departments and branches as well as in other Canadian libraries, also information on current Canadian publications, federal, provincial and trade.

Department of Public Printing and Stationery, Ottawa

The Superintendent of Publications will give information regarding prices, availability or otherwise, of all publications not confidential in nature, issued by Parliament and the various departments and agencies of the Government of Canada.

**BIBLIOGRAPHY:
BOOKS**

Nfld.:—Dept. of Education
Public Libraries Board
P.E.I.:—Dept. of Education
Superintendent of Libraries and
Director of Adult Education
N.S.:—Dept. of Education
N.B., Man.:—Dept. of Education
Provincial Librarian
Que.:—Office of Provincial Secretary
Provincial Archives
Provincial Library
Ont.:—Dept. of Education
Director of Public Library Service
Sask.:—Provincial Library
Legislative Library
Alta.:—Dept. of Economic Affairs
Library Board
Provincial Library and Archives
B.C.:—Dept. of Education
Provincial Library and Archives
Public Library Commission.

BIRTHS
See "Vital Statistics"

Dept. of National Health and Welfare
Blindness Control Division
Old Age Assistance Division

Dept. of Northern Affairs and
National Resources

Director of Old Age Assistance
(Northwest Territories)

Director of Old Age Assistance
and Blind Persons Allowances
(Yukon Territory)

**BLINDNESS
ALLOWANCES**

Sources same as for "Old Age
Assistance" excepting:
P.E.I.:—Director of Blind Persons
Allowances

BROADCASTING
See "Radio"

Dept. of Public Works

Building Construction Branch
Chief Architect and Informa-
tion Services

Dept. of Northern Affairs and
National Resources

Water Resources Branch

Central Mortgage and Housing
Corporation (National Housing
Act financing, building standards
house designs)

National Research Council, Division
of Building Research (materials
of construction, building codes,
building practice, soil and snow
mechanics)

Dept. of National Health and Welfare
Hospital Design Division

Dept. of Defence Production
Defence Construction (1951) Lim-
ited

Canadian Farm Loan Board

Canadian Government Specifications
Board

Canadian Standards Association
Dept. of Finance (Farm Improve-
ment Loans Act)

Dept. of Veterans Affairs (Soldier
Settlement and Veterans' Land
Act)

Dominion Bureau of Statistics

**BUILDING
CONSTRUCTION
incl. HOUSING**

Nfld., N.B.:—Dept. of Public Works
P.E.I.:—Dept. of Industry and
Natural Resources
Ont.:—Dept. of Labour
Factory Inspection Branch
Dept. of Planning and Develop-
ment
Community Planning Branch
Man., Sask.:—Dept. of Labour
Alta.:—Dept. of Industries and
Labour
Provincial Bureau of Statistics
B.C.:—Dept. of Finance, Housing
Commissioner
Dept. of Labour, Factory Inspec-
tion Branch
Dept. of Trade and Industry
Bureau of Economics and Sta-
tistics

<u>Sources for Federal Data</u>	<u>Subject</u>	<u>Sources for Provincial Data</u>
Department of Transport Canal Services Dominion Bureau of Statistics	CANALS	
Dept. of Citizenship and Immigration Canadian Citizenship Registration Branch Canadian Citizenship Branch National Film Board (films, filmstrips, photographs)	CITIZENSHIP See also "Population"	
	CIVIL AVIATION See "Aviation"	
Dept. of National Health and Welfare Civil Defence Division	CIVIL DEFENCE	Nfld.:—Dept. of Provincial Affairs P.E.I., Man.:—Office of the Premier N.S., Ont.:—Depts. of Provincial Secretary N.B., Alta.:—Depts. of Municipal Affairs Que.:—Dept. of Social Welfare and Youth Sask.:—Dept. of Social Welfare, Director of Civil Defence B.C.:—Dept. of Planning and Development
Dept. of Transport Meteorological Division, Toronto National Research Council Division of Building Research Climatological Atlas of Canada	CLIMATE	Que.:—Dept. of Lands and Forests Meteorological Bureau Dept. of Trade and Commerce Bureau of Statistics B.C.:—Dept. of Agriculture
Dept. of Mines and Technical Surveys Geological Survey of Canada Mines Branch Dominion Coal Board Dominion Bureau of Statistics National Film Board (films, filmstrips, photographs)	COAL	N.S., Que., Ont., B.C.:—Depts. of Mines N.B.:—Dept. of Lands and Mines Man.:—Dept. of Mines and Natural Resources, Mines Branch Sask.:—Dept. of Mineral Resources Alta.:—Dept. of Mines and Minerals
Dept. of Justice Director of Investigation and Research Restrictive Trade Practices Commission	COMBINES	

Sources for Federal Data

Subject

Sources for Provincial Data

Dept. of Northern Affairs and National Resources
Northern Administration and Lands Branch (wireless communication in the Yukon and Northwest Territories)
National Parks Branch (telephones in National Parks)
Board of Transport Commissioners (regulation of certain telegraph and telephone companies)
Dept. of Transport
Telecommunication Division—radio communications; aviation radio and marine radio; Government telegraph and telephone services (telegraph and telephone services in remote areas)
Canadian Overseas Telecommunication Corporation
Canadian Broadcasting Corporation (network broadcasting, television, and international short-wave service)
Dept. of Trade and Commerce
Transportation and Communications Section
Dominion Bureau of Statistics

COM-
MUNICATIONS
For 'Post Office'
and 'Mail'
See "Post Office"

Nfld.:—Dept. of Economic Development
P.E.I.:—Tourist and Information Bureau
N.B.:—Travel Bureau
Que.:—Public Service Board
Transportation Board
Ont.:—Municipal Board and Bureau of Statistics and Research
Man.:—Manitoba Telephone System
Sask.:—Dept. of Telephones
Saskatchewan Government Telephones
Alta.:—Dept. of Railways and Telephones
B.C.:—Dept. of Railways
RCMP Provincial Headquarters

Central Mortgage and Housing Corporation
Federal District Commission
National Capital Planning Committee, Information Office (general information on the Plan for the National Capital of Canada)
National Film Board (films, photographs)

COMMUNITY
PLANNING

Nfld.:—Dept. of Municipal Affairs and Supply
P.E.I.:—Dept. of Industry and Natural Resources
Dept. of Education, Physical Fitness Division
N.S.:—Dept. of Municipal Affairs
Dept. of Education, Physical Fitness Division
N.B.:—Dept. of Education, Physical Education and Recreational Branch
Que., Sask.:—Depts. of Municipal Affairs
Ont.:—Dept. of Planning and Development, Community Planning Branch
Dept. of Education, Community Programs Branch
Man.:—Depts. of Municipal Commissioner and Mines and Natural Resources, Surveys Branch
Dept. of Health and Public Welfare, Physical Fitness and Recreation Division
Sask.:—Dept. of Municipal Affairs, Community Planning Branch
Executive Council, Economic Advisory and Planning Board
Alta.:—Dept. of Municipal Affairs, Town and Rural Planning Branch
B.C.:—Dept. of Trade and Industry, Bureau of Economics and Statistics
Dept. of Municipal Affairs
Regional Planning Division
Dept. of Education, Community Programs Branch

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Northern Affairs and National Resources National Parks Branch, Canadian Wildlife Service Northern Administration and Lands Branch Forestry Branch Federal District Commission Dept. of Agriculture Experimental Farms Service Economics Division Prairie Farm Rehabilitation Ad- ministration Maritime Marshlands Rehabilita- tion Administration Dept. of Fisheries Information and Educational Service National Film Board (films, photo- graphs)	CONSERVATION	Nfld.:—Dept. of Mines and Re- sources P.E.I.:—Dept. of Industry and Natural Resources N.S., Alta.:—Depts. of Lands and Forests N.B.:—Dept. of Lands and Mines Que.:—Dept. of Lands and Forests Dept. of Game and Fisheries Dept. of Hydraulic Resources Ont.:—Dept. of Lands and Forests Dept. of Planning and Develop- ment, Conservation Branch Ontario Agricultural College, Guelph Man.:—Dept. of Mines and Natural Resources Sask.:—Dept. of Natural Resources Dept. of Agriculture, Conservation and Development Branch B.C.:—Dept. of Lands and Forests, Director of Conservation
Privy Council Office Dept. of Secretary of State Dept. of Justice Public Archives	CONSTITUTION	All Provinces except B.C.:—Depts. of Attorney General B.C.:—Provincial Secretary
Dominion Bureau of Statistics	CONSUMER PRICE INDEX <i>See also</i> "Cost of Living"	
Dept. of Agriculture Economics Division Dept. of Fisheries Information and Educational Ser- vice Dept. of Insurance Central Mortgage and Housing Corporation (mortgage lending activities) Dept. of Secretary of State Companies Division	CO-OPERATIVES (including Credit Unions)	Nfld.:—Dept. of Fisheries and Co- operatives P.E.I.:—Dept. of Agriculture N.S.:—Dept. of Provincial Secretary N.B.:—Dept. of Agriculture Que.:—Dept. of Agriculture Dept. of Trade and Commerce Bureau of Statistics Ont.:—Dept. of Agriculture Co-operation and Markets Branch Dept. of Provincial Secretary Dept. of Insurance Man.:—Dept. of Agriculture and Immigration, Co-operative Ser- vices Branch Sask.:—Dept. of Co-operation and Co-operative Development Alta.:—Dept. of Industries and Labour B.C.:—Attorney-General's Dept., Registrar of Companies
Dominion Bureau of Statistics	COST OF LIVING	Nfld.:—Dept. of Municipal Affairs and Supply Alta.:—Dept. of Industries and Labour Provincial Bureau of Statistics B.C.:—Dept. of Trade and Industry Bureau of Economics and Statistics

Sources for Federal Data

Subject

Sources for Provincial Data

Dept. of Northern Affairs and National Resources
Northern Administration and Lands Branch
National Parks Branch
National Museum of Canada
Dept. of Citizenship and Immigration
Indian Affairs Branch (Indian handicrafts)
Dept. of Trade and Commerce
Commodities Branch
National Gallery of Canada (films, reference library)
National Film Board (films, filmstrips, photographs)
Dept. of Veterans Affairs (veterans only)
Public Archives
Dept. of National Health and Welfare

CREATIVE ARTS
AND
HANDICRAFTS

Nfld.:—Dept. of Education
P.E.I.:—Tourist and Information Branch
Dept. of Education, Physical Fitness Division
N.S.:—Dept. of Trade and Industry, Handicrafts Division
Nova Scotia College of Art
Dept. of Education, Physical Fitness Division
N.B.:—Dept. of Industry and Development, Handicraft Division
The New Brunswick Museum, Saint John
Dept. of Education, Physical Education and Recreation Branch
Que.:—Dept. of Agriculture (rural handicrafts)
Ont.:—Royal Ontario Museum
Dept. of Education, Community Programs Branch
Man.:—Dept. of Agriculture and Immigration (handicrafts)
Dept. of Health and Public Welfare, Physical Fitness and Recreation Division
Sask.:—Dept. of Education, Adult Education Division
Fitness and Recreation Division
Saskatchewan Arts Board
Alta.:—Dept. of Economic Affairs (cultural activities)
B.C.:—Provincial Museum (Indian handicrafts)
Dept. of Education, Community Programs Branch

Dept. of Justice
Clemency Branch
The Penitentiary Commission
Dept. of National Health and Welfare
Research Division
National Film Board (films, photographs)
Dominion Bureau of Statistics

CRIME AND
DELINQUENCY

All Provinces:—Depts. of Attorney General
Additional—
Nfld., N.S., Alta.:—Depts. of Public Welfare
P.E.I., B.C.:—Depts. of Health and Welfare
Que.:—Dept. of Social Welfare and Youth
Dept. of Trade and Commerce
Bureau of Statistics.
Ont.:—Dept. of Reform Institutions
Man.:—Dept. of Health and Public Welfare
Sask.:—Dept. of Social Welfare

See pp. 113-120 of this volume for a list of Crown corporations giving in each case the Cabinet Minister through which that particular corporation reports to Parliament.

CROWN
CORPORATIONS

For information with regard to individual Crown Corporations apply as follows:
Nfld.:—Dept. of Economic Development
P.E.I.:—Dept. of Industry and Natural Resources
Ont.:—Dept. of Provincial Secretary
Man.:—Treasury Dept.
Sask.:—Government Finance Office
B.C.:—Attorney-General's Dept.

Bank of Canada
Dept. of Finance
Royal Canadian Mint

CURRENCY

CUSTOMS
AND EXCISE
See "Taxation"

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Agriculture Animal Husbandry Division Dairy Products Division Dairy Technology Research Unit National Film Board (films, photographs in co-operation with the Dept. of Agriculture) Dominion Bureau of Statistics	DAIRYING	Nfld.:—Dept. of Mines and Resources P.E.I., N.S.:—Depts. of Agriculture N.B., Ont., Alta., B.C.:—Depts. of Agriculture, Dairy Branches (also Milk Control Board for Ont. and B.C.) Que.:—Dept. of Agriculture, Dairy Commission Dept. of Trade and Commerce Bureau of Statistics Man.:—Dept. of Agriculture and Immigration, Milk Control Board, Dairy Branch Sask.:—Dept. of Agriculture, Animal Industry Branch Milk Control Board
	DEATHS See "Vital Statistics"	
Dept. of National Defence Director of Public Relations Directorate of Naval Information Directorate of Public Relations (Army) Directorate of Public Relations (RCAF) Directorate of Public Relations (Defence Research Board) Dept. of Defence Production Canadian Commercial Corporation Defence Construction (1951) Limited Canadian Arsenals Limited Dept. of National Health and Welfare Civil Defence Division Dept. of External Affairs (North Atlantic Treaty Organization)	DEFENCE See also "Civil Defence"	
Dept. of Defence Production	DEFENCE PRODUCTION	
Dept. of National Health and Welfare	DISABLED PERSONS ALLOWANCES	Nfld.:—The Old Age Assistance Board P.E.I., N.B.:—Director of Disabled Persons Allowances N.S.:—Director of Old Age Assistance Que.:—Quebec Social Allowances Commission Ont.:—Disabled Persons Allowances Branch Man.:—The Old Age Assistance and Blind Persons' Allowances Board Sask.:—Director of Public Assistance Alta.:—The Pensions Board B.C.:—The Disabled Persons Allowances Board

Sources for Federal Data

Subject

Sources for Provincial Data

Bank of Canada
 Dept. of Trade and Commerce
 Economics Branch
 Dept. of Labour
 Economics and Research Branch
 Legislation Branch
 Dept. of Mines and Technical Surveys
 Dept. of Northern Affairs and National Resources
 Administration Branch
 Water Resources Branch
 Forestry Branch
 Northern Administration and Lands Branch (for Eskimos)
 Dept. of National Health and Welfare
 Research Division
 Dept. of Agriculture
 Economics Division
 Board of Transport Commissioners
 Bureau of Transportation Economics
 Dept. of Fisheries
 Fisheries Research Board of Canada
 Central Mortgage and Housing Corporation
 Dept. of Defence Production
 Economics and Statistics Branch
 Dept. of Public Works
 Economic Studies Unit
 Dominion Bureau of Statistics
 Public Archives (early data)

ECONOMIC
AND SOCIAL
RESEARCH

Nfld.:—Dept. of Economic Development
 P.E.I.:—Dept. of Industry and Natural Resources
 N.S.:—Dept. of Trade and Industry
 Nova Scotia Research Foundation
 N.B.:—Dept. of Industry and Development
 Que.:—Dept. of Trade and Commerce, Economic Research Bureau
 Ont.:—Bureau of Statistics and Research
 Man.:—Dept. of Industry and Commerce
 Sask.:—Executive Council, Economic and Advisory Planning Board
 Executive Council, Industrial Development Office
 Government Finance Office
 Dept. of Co-operation and Co-operative Development, Research and Statistical Division
 Alta.:—Director of Industrial Development and Economic Research
 Dept. of Economic Affairs
 B.C.:—Dept. of Trade and Industry
 Bureau of Economics and Statistics

Canadian Broadcasting Corporation (school broadcasts)
 Dept. of Northern Affairs and National Resources
 Northern Administration and Lands Branch (N.W.T.)
 Dept. of National Health and Welfare
 Dept. of Citizenship and Immigration
 Canadian Citizenship Branch
 Indian Affairs Branch
 Dept. of Veterans Affairs (veterans and children of war dead)
 Dept. of Labour
 Canadian Vocational Training Branch
 Dept. of Fisheries
 Information and Educational Service
 Dept. of Finance
 University Grants
 National Gallery of Canada (school broadcasts, lectures on art)
 Dominion Bureau of Statistics

EDUCATION
 See also
 "Motion Pictures"
 and "Photographic
 Material"

All Provinces:—Depts. of Education (technical, visual, audio and all other phases of education)

Chief Electoral Office

ELECTIONS

Nfld.:—Dept. of Provincial Affairs
 P.E.I., N.S.:—Depts. of Provincial Secretary
 N.B.:—Dept. of Provincial Secretary-Treasurer
 Que.:—Chief Returning Officer
 Ont.:—Provincial Secretary's Dept., Chief Election Officer
 Man., B.C.:—Chief Electoral Officers
 Sask., Alta.:—Clerks of the Executive Councils

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Northern Affairs and National Resources Water Resources Branch Northwest Territories Power Commission National Film Board (films, filmstrips, photographs) Dominion Bureau of Statistics (central electric stations)	ELECTRIC POWER	Nfld.:—Dept. of Economic Development P.E.I.:—Public Utility Commission N.S., Alta.:—Power Commissions N.B.:—New Brunswick Electric Power Commission Que.:—Hydro-Electric Commission Dept. of Hydraulic Resources Ont.:—The Hydro-Electric Power Commission of Ontario Man.:—Manitoba Hydro Electric Board Dept. of Public Utilities Sask.:—Saskatchewan Power Corporation; Saskatchewan Power Commission B.C.:—Dept. of Lands and Forests British Columbia Power Commission
Dept. of Labour National Employment Service Economics and Research Branch Civil Service Commission (opportunities for, and conditions of, employment in the Federal Civil Service) Dominion Bureau of Statistics	EMPLOYMENT	All Provinces:—Depts. of Agriculture (farm labour) Additional:—Nfld., N.S., Man., Sask.:—Depts. of Labour Que.:—Dept. of Labour, Provincial Employment Bureau Ont.:—Dept. of Labour Bureau of Statistics and Research Alta.:—Dept. of Industries and Labour B.C.:—Dept. of Labour Bureau of Economics and Statistics
Dept. of Northern Affairs and National Resources Northern Administration and Lands Branch (education, welfare, handicrafts, livelihood) Arctic Division (Eskimo problems) National Museum of Canada (historical and archaeological information, handicrafts) Canadian Wildlife Service (wildlife in Canada's North) Dept. of National Health and Welfare (health and medical services) Royal Canadian Mounted Police (field duties)	ESKIMOS	Nfld.:—Dept. of Public Welfare, Division of Northern Labrador Affairs
Dept. of Trade and Commerce Canadian Government Exhibition Commission Dept. of Agriculture Information Service National Film Board (films, photographs) National Gallery of Canada (paintings, reproductions, etc.) Dept. of Northern Affairs and National Resources Editorial and Information Division (CNE) Canadian Government Travel Bureau (sportsmen's shows) Dept. of Fisheries Information and Educational Service	EXHIBITIONS	Nfld.:—Dept. of Economic Development N.B., Sask.:—Dept. of Agriculture Que.:—Dept. of Agriculture Dept. of Trade and Commerce Ont.:—Most Ontario Departments organize exhibitions Man.:—Dept. of Agriculture and Immigration, Extension Service Dept. of Industry and Commerce Alta.:—Dept. of Economic Affairs Dept. of Agriculture B.C.:—Depts. of Agriculture, Trade and Industry
Dept. of Mines and Technical Surveys Explosives Division	EXPLOSIVES	B.C.:—Dept. of Mines

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of External Affairs Information Division Dept. of Trade and Commerce International Economic and Technical Co-operation Division (Colombo Plan)	EXTERNAL AFFAIRS	
Dept. of National Health and Welfare	FAMILY ALLOWANCES	
Dept. of Agriculture Field Husbandry Division Forage Crops Division Plant Products Division National Film Board (films, photographs) Dominion Bureau of Statistics	FIELD CROPS	Nfld.:—Dept. of Mines and Resources P.E.I., N.S., N.B.:—Depts. of Agriculture Que.:—Dept. of Agriculture Dept. of Trade and Commerce Bureau of Statistics Ont.:—Dept. of Agriculture, Crops, Seeds and Weeds Branch Man.:—Dept. of Agriculture and Immigration Sask.:—Dept. of Agriculture, Plant Industry Branch Alta., B.C.:—Depts. of Agriculture, Field Crop Branches
Dept. of Finance Bank of Canada Dominion Bureau of Statistics	FINANCE See also "Taxation"	Nfld., B.C.:—Depts. of Finance P.E.I., Sask.:—Provincial Treasurer N.S.:—Dept. of Provincial Treasurer N.B.:—Dept. of Provincial Secretary-Treasurer Que.:—Dept. of Finance Dept. of Trade and Commerce Bureau of Statistics Ont.:—Provincial Treasurer's Dept. Man., Alta.:—Provincial Treasury Depts.
Dept. of Public Works Fire Prevention Branch (fire loss statistics) Dept. of Northern Affairs and National Resources Forestry Branch National Parks Branch Board of Transport Commissioners (forest-fire protection along railway lines) National Film Board (films, photographs, in relation to government prevention and conservation programs) National Research Council Division of Building Research, Fire Research Section	FIRE PREVENTION	All Provinces:—Provincial Fire Marshals (for urban and rural fire losses) Additional:—Nfld.:—Dept. of Mines and Resources N.S., Alta., B.C.:—Depts. of Lands and Forests N.B.:—Dept. of Lands and Mines Que.:—Dept. of Lands and Forests Forest Protection Service Dept. of Public Works, Fire Commissioner Ont.:—Dept. of Lands and Forests, Forest Protection Division Man.:—Dept. of Mines and Natural Resources Dept. of Labour, Fire Commissioner Sask.:—Dept. of Natural Resources Dept. of Labour, Fire Commissioner

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Fisheries Information and Educational Service Fisheries Research Board of Canada Dept. of Trade and Commerce Agriculture and Fisheries Branch National Film Board (films, photographs) Dept. of Finance Fisherman's Improvement Loans	FISHERIES	Nfld.:—Dept. of Fisheries and Co-operatives P.E.I.:—Dept. of Industry and Natural Resources N.S.:—Dept. of Trade and Industry Fisheries Division N.B.:—Dept. of Industry and Development, Fisheries Branch Que.:—Dept. of Game and Fisheries Dept. of Trade and Commerce, Bureau of Statistics Ont.:—Dept. of Lands and Forests Fish and Wildlife Division Man.:—Dept. of Mines and Natural Resources Game and Fisheries Branch Sask.:—Dept. of Natural Resources, Fisheries Branch Saskatchewan Marketing Service Alta.:—Dept. of Lands and Forests, Fish and Game Branch B.C.:—Dept. of Fisheries Provincial Game Commission
	FOOD AND DRUGS See "Standards" and "Nutrition"	
	FOREIGN AFFAIRS See "External Affairs"	
Bank of Canada	FOREIGN EXCHANGE	
Dept. of Northern Affairs and National Resources Forestry Branch National Film Board (films, filmstrips, photographs) Dept. of Agriculture Forest Biology Division Dominion Bureau of Statistics	FOREST RESOURCES	Nfld.:—Dept. of Mines and Resources P.E.I.:—Dept. of Industry and Natural Resources N.S., Que., Ont., Alta., B.C.:—Depts. of Lands and Forests N.B.:—Dept. of Lands and Mines Man.:—Dept. of Mines and Natural Resources, Forestry Branch Sask.:—Dept. of Natural Resources, Forestry Branch
	FRUIT See "Horticulture"	
	FUEL See "Coal", "Oil", "Forest Resources"	

Sources for Federal Data

Subject

Sources for Provincial Data

Dept. of Agriculture
Marketing Service (fur grading)
Experimental Farms Service (ranch
fur production)
National Film Board (photographs)
Dominion Bureau of Statistics (gen-
eral fur products statistics)

FUR FARMING

See also
"Trapping"

Nfld.:—Dept. of Mines and Re-
sources
Dept. of Economic Development
P.E.I., N.B., Alta., B.C.:—Depts.
of Agriculture
N.S., Ont.:—Depts. of Lands and
Forests
Que.:—Dept. of Agriculture
Dept. of Trade and Commerce
Bureau of Statistics
Man.:—Dept. of Mines and Natural
Resources, Game and Fisheries
Branch
Sask.:—Dept. of Natural Resources
Saskatchewan Marketing Service

Dept. of Mines and Technical
Surveys
Geographical Branch
Canadian Board on Geographical
Names
Dept. of Agriculture
Field Husbandry Division (soil
surveys)
Public Archives
Dept. of Fisheries
Fisheries Research Board of
Canada (oceanography)

GEOGRAPHY

Nfld.:—Dept. of Mines and Re-
sources
P.E.I.:—Travel Bureau
N.S.:—Dept. of Mines
N.B.:—Dept. of Lands and Mines
Que., B.C.:—Depts. of Lands and
Forests
Man.:—Dept. of Mines and Natural
Resources
Sask.:—Dept. of Natural Resources,
Bureau of Publications

Dept. of Mines and Technical
Surveys
Geological Survey of Canada

GEOLOGY

Nfld.:—Dept. of Mines and Re-
sources
N.S., B.C.:—Depts. of Mines
N.B.:—Dept. of Lands and Mines
Que.:—Dept. of Mines
Geological Surveys Branch
Ont.:—Dept. of Mines
Geological Branch
Man.:—Dept. of Mines and Natural
Resources, Mines Branch
Sask.:—Dept. of Mineral Resources
Alta.:—Dept. of Mines and Minerals

Dept. of Secretary of State (Federal-
Provincial channel of communi-
cation)
Chief Electoral Office (Electoral Act
and Voters Lists)
Privy Council Office (appointments,
orders in council, statutory
orders and regulations)
Dept. of Citizenship and Immigration
Canadian Citizenship Branch
Dept. of Northern Affairs and
National Resources (for Yukon
and Northwest Territories)
Public Archives (early official re-
cords)

GOVERNMENT

For 'Senate of
Canada', 'House of
Commons' and
'Library of
Parliament' See
"Parliament"

Nfld.:—Dept. of Provincial Affairs
P.E.I., N.S., Ont., Man., Sask.,
Alta., B.C.:—Depts. of Provin-
cial Secretary
N.B.:—Dept. of Provincial Secre-
tary-Treasurer
Que.:—Office of Provincial Secretary

Dept. of National Health and
Welfare
Dept. of Northern Affairs and
National Resources (for N.W.T.)
Dominion Bureau of Statistics
National Film Board (films, film-
strips, photographs)

HEALTH

For 'Health of
Veterans'
See "Veterans
Affairs"

Nfld., Que., Ont.:—Depts. of
Health
P.E.I.:—Dept. of Health and Wel-
fare
N.S., Sask., Alta.:—Depts. of
Public Health
N.B.:—Dept. of Health and Social
Services
Man.:—Dept. of Health and Public
Welfare
B.C.:—Dept. of Health and Welfare
(general)
Dept. of Provincial Secretary
(mental hospitals)
British Columbia Hospital Insur-
ance Commission

HIGHWAYS

See
"Transportation"

Sources for Federal Data	Subject	Sources for Provincial Data
Public Archives Dept. of Northern Affairs and National Resources National Parks Branch (historic sites and monuments) Dept. of National Defence Director of Public Relations (war histories, official war summaries, etc.) Dept. of Citizenship and Immigration Canadian Citizenship Branch Dominion Bureau of Statistics	HISTORY	Nfld.:—Legislative Library Memorial University Gosling Memorial Library P.E.I.:—Travel Bureau N.S.:—Public Archives N.B.:—Legislative Library Que.:—The Archives Ont.:—Legislative Library Bureau of Statistics and Research Provincial Archivist Man.:—Provincial Library and Archives Sask.:—Legislative Library, Archives Division Alta.:—Archives, Provincial Library Dept. of Economic Affairs Pub. Bureau B.C.:—Dept. of Education Provincial Archivist
Dept. of Agriculture Marketing Service, Fruit and Vegetable Division Experimental Farms Service, Horticulture Division	HORTICULTURE	Nfld.:—Dept. of Mines and Resources P.E.I.:—Dept. of Agriculture N.S., N.B., Alta., B.C.:—Depts. of Agriculture, Horticultural Branches Que.:—Dept. of Agriculture, Fruit Branch Ont.:—Dept. of Agriculture, Agriculture and Horticulture Branches Man.:—Dept. of Agriculture and Immigration Sask.:—Dept. of Agriculture, Plant Industry Branch
Dept. of National Health and Welfare Dept. of Veterans Affairs (veterans' hospitals) Dept. of National Defence (armed forces hospitals) Dominion Bureau of Statistics	HOSPITALS	Nfld., Que., Ont.:—Depts. of Health P.E.I.:—Dept. of Health and Welfare N.S., Sask., Alta.:—Depts. of Public Health N.B.:—Dept. of Health and Social Services Man.:—Dept. of Health and Public Welfare B.C.:—Dept. of Health and Welfare (general) Dept. of Provincial Secretary (mental hospitals) British Columbia Hospital Insurance Commission
	HOUSE OF COMMONS See "Parliament"	
	HOUSING See "Building Construction"	

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Citizenship and Immigration Immigration Branch Dept. of Labour Special Services Branch Dept. of National Health and Welfare Quarantine, Immigration Medical and Sick Mariners Division National Film Board (films, photographs) Dominion Bureau of Statistics	IMMIGRATION	P.E.I.:—Dept. of Industry and Natural Resources Ont.:—Dept. of Planning and Development Bureau of Statistics and Research Man.:—Dept. of Agriculture and Immigration Sask.:—Dept. of Social Welfare
	INCOME TAX See "Taxation"	
Dept. of Citizenship and Immigration Indian Affairs Branch Dept. of Northern Affairs and National Resources National Museum of Canada (historical and archaeological information) Dept. of National Health and Welfare (health services)	INDIANS	Nfld.:—Dept. of Public Welfare (Indians in Labrador) Que.:—Dept. of Fish and Game (fur preserves) B.C.:—Dept. of Labour, Provincial Advisory Committee on Indian Affairs
	INDUSTRIAL DEVELOPMENT See "Manufacturing"	
Dept. of Insurance (Dominion, British and foreign companies, Federal Civil Service insurance) Dept. of Labour Annuities Branch Dept. of Veterans Affairs Veterans Insurance Branch Dept. of Trade and Commerce Export Credits Insurance Corporation Central Mortgage and Housing Corporation (insures loans made under National Housing Act 1954) Dominion Bureau of Statistics (summary statistics of all types of insurance)	INSURANCE— LIFE, FIRE, ETC. For 'Unemployment Insurance' See "Labour"	Nfld.:—Dept. of Provincial Affairs P.E.I., N.S., N.B., Man., Alta., B.C.:—Superintendents of Insurance Que.:—Finance Dept., Insurance Branch Ont.:—Dept. of Insurance Sask.:—Superintendent of Insurance, Government Insurance Office
Dept. of Mines and Technical Surveys Dept. of Trade and Commerce Commodities Branch National Film Board (films, photographs) Dominion Bureau of Statistics	IRON AND STEEL	Nfld.:—Dept. of Mines and Resources N.S.:—Dept. of Mines Research Foundation N.B.:—Dept. of Lands and Mines Que.:—Dept. of Trade and Commerce, Bureau of Statistics Dept. of Mines Ont.:—Dept. of Planning and Development, Trade and Industry Branch Bureau of Statistics and Research Man.:—Dept. of Industry and Commerce Sask.:—Dept. of Mineral Resources B.C.:—Dept. of Mines Bureau of Economics and Statistics

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Justice Dominion Bureau of Statistics	JUSTICE	All Provinces:—Depts. of Attorney General
Dept. of Labour Information Branch Labour Gazette Branch Government Annuities Branch Legislation Branch Unemployment Insurance Commission Economics and Research Branch Canada Labour Relations Board Canadian Vocational Training Branch Civilian Rehabilitation Branch Industrial Relations Branch (conciliation of labour disputes, payment of fair wages on government contracts, promotion of labour-management production committees, fair employment practices) International Labour Organization Branch National Employment Service National Advisory Council on Manpower Special Services Branch Women's Bureau Dept. of National Health and Welfare (occupational health) Dept. of Secretary of State Companies Division National Film Board (films, photographs) Dominion Bureau of Statistics	LABOUR See also "Workmen's Compensation"	Nfld., P.E.I., N.S., N.B., Man., Sask.:—Depts. of Labour Que., Ont., B.C.:—Depts. of Labour Provincial Bureaus of Statistics Alta.:—Dept. of Industries and Labour Provincial Bureau of Statistics
Dept. of Northern Affairs and National Resources Northern Administration and Lands Branch (Yukon and Northwest Territories) Dept. of Mines and Technical Surveys Surveyor General of Canada Dept. of Veterans Affairs Dept. of Citizenship and Immigration Immigration Branch (for land settlement) Dept. of Transport Lands Branch	LANDS AND LAND SETTLEMENT	Nfld.:—Dept. of Mines and Resources P.E.I.:—Commissioner of Public Lands N.S.:—Dept. of Agriculture, Land Settlement Board N.B.:—Dept. of Lands and Mines Que.:—Dept. of Lands and Forests Dept. of Colonization Ont., Alta.:—Depts. of Lands and Forests Man.:—Dept. of Mines and Natural Resources, Lands Branch Sask.:—Dept. of Agriculture, Lands Branch; Attorney General, Land Titles B.C.:—Dept. of Agriculture, Land Clearing; Dept. of Lands and Forests
Royal Canadian Mounted Police <i>(Enforces Federal Statutes in all parts of Canada; also carries out, on behalf of Attorneys General and under contract, enforcement of the Criminal Code and Provincial Statutes in all provinces except Quebec and Ontario; is the only law-enforcement body in the Yukon and Northwest Territories and assists in the welfare of Eskimos and Indians in these territories. The Minister in control of the Force is the Minister of Justice.)</i>	LAW ENFORCEMENT	All Provinces:—Depts. of the Attorney General

Sources for Federal Data

Clerk of the Senate of Canada
Clerk of the House of Commons
Privy Council Office
Dept. of Justice
Dept. of Northern Affairs and
National Resources (for Yukon
and Northwest Territories)
For Acts administered by in-
dividual Federal Depts., see pp.
121-125 of this volume

Subject

LEGISLATION
For
'Statutory Orders
and Regulations'
See "Government"

Sources for Provincial Data

All Provinces except Man. and
B.C.:—Depts. of Attorney Gen-
eral
Man.:—Legislative Council
B.C.:—Dept. of Provincial Secretary

LIBRARIES
See "Bibliography:
Books"

Chief Electoral Office (for local
referendum under Canada Tem-
perance Act)
Dept. of Northern Affairs and
National Resources
Northern Administration and
Lands Branch (Yukon and
Northwest Territories)
Dept. of Secretary of State
Special Division
Dominion Bureau of Statistics (sta-
tistical report covering Canada)

LIQUOR
CONTROL

Nfld.:—Dept. of Finance
P.E.I.:—Temperance Commission
N.S., Que.:—Liquor Commissions
N.B., Ont., Alta., B.C.:—Liquor
Control Boards
Man.:—Liquor Control Commission
Sask.:—Liquor Board

Dept. of Agriculture
Livestock Products Division (for
marketing data)
Poultry Products Division (for
marketing data)
Livestock and Poultry Division
(for breeding programs and
testing data)
Health of Animals Division (for
administration of disease control
regulations, meat inspection,
etc.)
Animal Husbandry Division (for
general information)
Animal Pathology Division (re-
search in animal diseases)
Dept. of Trade and Commerce
Agriculture and Fisheries Branch
National Film Board (films, photo-
graphs, in relation to Dept. of
Agriculture)
Dominion Bureau of Statistics

LIVESTOCK

Nfld.:—Dept. of Mines and Re-
sources
P.E.I., N.B., Ont.:—Depts. of
Agriculture, Livestock Branches
N.S.:—Dept. of Agriculture, Animal
Husbandry Branch
Que.:—Dept. of Agriculture, Animal
Husbandry Branch
Provincial Bureau of Statistics
Man.:—Dept. of Agriculture and
Immigration, Livestock Branch
Sask.:—Dept. of Agriculture, Animal
Industry Branch
Alta., B.C.:—Provincial Bureaus of
Statistics
Depts. of Agriculture, Livestock
Branches

Dept. of Northern Affairs and
National Resources
Forestry Branch
Dept. of Trade and Commerce
Commodities Branch
National Film Board (films, film-
strips, photographs, in relation
to departmental conservation
and development programs)
Dominion Bureau of Statistics

LUMBERING

Nfld.:—Dept. of Mines and Re-
sources
P.E.I.:—Dept. of Industry and
Natural Resources
N.S., Que., Ont., Alta.:—Depts.
of Lands and Forests
N.B.:—Dept. of Lands and Mines
Man.:—Dept. of Mines and Natural
Resources, Forestry Branch
Sask.:—Dept. of Natural Resources,
Forestry Branch
Industrial Development Office
Saskatchewan Timber Board
B.C.:—Dept. of Lands and Forests
Dept. of Trade and Industry
Bureau of Economics and Sta-
tistics

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Secretary of State Companies Division Dept. of Trade and Commerce Commodities Branch Industrial Development Branch Dept. of Defence Production (for defence items) Bank of Canada Industrial Development Bank National Research Council Canadian Patents and Develop- ment Limited (utilization of new scientific processes) National Film Board (films, film- strips and photographs) National Gallery of Canada (for industrial designs) Dominion Bureau of Statistics	<div>MANUFACTURING</div> <div>See also "Crown Corporations"</div>	Nfld.:—Dept. of Economic Devel- opment P.E.I.:—Dept. of Industry and Natural Resources N.S., B.C.:—Depts. of Trade and Industry N.B.:—Dept. of Industry and De- velopment Que.:—Dept. of Trade and Com- merce, Bureau of Statistics Ont.:—Dept. of Planning and De- velopment, Trade and Industry Branch Bureau of Statistics Man.:—Dept. of Industry and Commerce Sask.:—Executive Council, Eco- nomic Advisory and Planning Board Executive Council, Industrial De- velopment Office Government Finance Office Alta.:—Dept. of Economic Affairs Bureau of Statistics B.C.:—Bureau of Economics and Statistics
Dept. of Mines and Technical Surveys Geographical Branch Geological Survey of Canada, Surveys and Mapping Branch (geological, topographical and general maps; aeronautical and marine navigation charts) Dept. of Agriculture (soil survey and economic survey maps) Public Archives (maps relating to history and cartography) Dept. of Fisheries Information and Educational Ser- vice (fisheries maps) Dept. of Transport (meteorological maps) National Research Council Division of Building Research Climatological Atlas of Canada Dominion Bureau of Statistics (eco- nomic and census maps)	<div>MAPS AND CHARTS</div>	Nfld.:—Dept. of Mines and Re- sources P.E.I.:—Dept. of Public Works and Highways N.S.:—Dept. of Mines Research Foundation N.B.:—Dept. of Lands and Mines Que., Alta., B.C.:—Depts. of Lands and Forests Ont.:—Dept. of Lands and Forests Dept. of Mines Man.:—Dept. of Mines and Natural Resources, Surveys Branch Sask.:—Dept. of Natural Resources Bureau of Publications (Federal Dept. of Mines and Technical Surveys, Geographical Branch)
	<div>MARRIAGES</div> <div>See "Vital Statistics"</div>	
Dept. of Agriculture Economics Division (Co-opera- tives) Dominion Bureau of Statistics	<div>MERCHANDISING</div>	Man.:—Dept. of Industry and Com- merce Sask.:—Executive Council, Indus- trial Development Office Alta.:—Dept. of Industries and Labour B.C.:—Dept. of Trade and Industry Bureau of Economics and Sta- tistics
Dept. of Mines and Technical Surveys Mines Branch Geological Survey Dept. of Trade and Commerce Commodities Branch Dominion Bureau of Statistics (for production data)	<div>METALS</div> <div>(other than Iron and Steel)</div>	Nfld.:—Dept. of Mines and Re- sources N.S., Que., Ont.:—Depts. of Mines N.B.:—Dept. of Lands and Mines Man.:—Dept. of Mines and Natural Resources, Mines Branch Sask.:—Dept. of Mineral Resources Alta.:—Dept. of Mines and Minerals B.C.:—Bureau of Economics and Statistics Dept. of Mines

Sources for Federal Data

Subject

Sources for Provincial Data

METEOROLOGY
See "Weather"

MINING AND
MINERALS

MOTION
PICTURES

MUNICIPAL
AFFAIRS

MUSEUMS

Dept. of Mines and Technical
Surveys
Dept. of Northern Affairs and
National Resources (for Yukon
and Northwest Territories)
Dominion Bureau of Statistics (for
production data)

National Film Board
*(Produces documentary films, news-
reels and short subjects for theatrical,
non-theatrical and television distribu-
tion: film-strips and photographs for
informational, educational and archival
purposes and other visual materials
devoted to the interpretation of the
Canadian scene to audiences both at
home and abroad; and maintains a
large film preview library for the benefit
of government departments and other
official bodies.)*
Dept. of National Health and Welfare
Information Services Division
National Gallery of Canada (*main-
tains a library of films on art.*)

Dominion Bureau of Statistics
Public Finance and Transportation
Division

National Gallery of Canada (paint-
ings, sculpture, etc.)
Public Archives (and Canadian War
Museum)
Dept. of Northern Affairs and
National Resources
National Parks Branch
National Museum of Canada
Historic Parks Museums

Nfld.:—Dept. of Mines and Re-
sources
N.S., Que., Ont., B.C.:—Depts.
of Mines
N.B.:—Dept. of Lands and Mines
Man.:—Dept. of Mines and Natural
Resources, Mines Branch
Sask.:—Dept. of Mineral Resources
Alta.:—Dept. of Mines and Minerals

Nfld., P.E.I., N.B., Ont. and
Man. buy such films but do not
produce them
N.S., Que., Alta. and B.C. produce
educational or informational
films
Sask.:—Bureau of Publications
Dept. of Education, Visual Edu-
cation Branch
Dept. of Labour (film censor)
Alta.:—Dept. of Economic Affairs,
Photographic Branch
B.C.:—Dept. of Trade and Industry
Photographic Branch
*All provinces have Motion Picture
Censorship Boards. Details may
be obtained by application to the
province concerned: Depts. of Educa-
tion and Travel, Provincial Censorship
Boards and Regional National Film
Board Offices.*

Nfld.:—Dept. of Municipal Affairs
and Supply
P.E.I.:—Dept. of Industry and
Natural Resources
N.S., N.B., Que., Ont., Sask.,
Alta., B.C.:—Depts. of Muni-
cipal Affairs
Man.:—Dept. of Municipal Com-
missioner

Not including provincial universities
in Sask., Alta. and B.C.
Nfld.:—Dept. of Provincial Affairs
N.S.:—Nova Scotia Museum of Fine
Arts, Public Archives of Nova
Scotia, Provincial Museum of
Nova Scotia, Halifax
N.B.:—New Brunswick Museum,
Saint John
Que.:—The Archives, Musée de la
Province de Quebec, Quebec;
Commercial and Industrial Mus-
eum of Montreal
Ont.:—Royal Ontario Museum (in-
cluding Archaeology, Geology,
Mineralogy, Palæontology and
Zoology); Ontario Archives, Tor-
onto
Man.:—Manitoba Museum, Winni-
peg
Sask.:—Dept. of Natural Resources
Provincial Museum
B.C.:—Provincial Museum of Nat-
ural History and Anthropology,
Provincial Archives (including
Helmcken House), Victoria

Sources for Federal Data	Subject	Sources for Provincial Data
Dominion Bureau of Statistics	NATIONAL ACCOUNTS	
Dept. of Citizenship and Immigration Canadian Citizenship Registration Branch	NATURALIZATION See also "Population"	
Dept. of Public Works (acquisition, construction and improvement of harbour and river works, including construction and oper- ation of graving docks and marine engineering generally). Harbours and Rivers Engineer- ing Branch Information Services Dept. of Transport Marine and Canal Services (aids to marine navigation) Telecommunication Division (radio aids to navigation) National Research Council Division of Radio and Electrical Engineering (applications of radar to navigation) Dept. of Mines and Technical Surveys Hydrographic Service Legal Surveys and Aeronautical Charts Division National Harbours Board Canadian Maritime Commission	NAVIGATION	
Dept. of National Health and Welfare Nutrition Division Dept. of Agriculture Consumer Section Dept. of Fisheries Inspection and Consumer Service	NUTRITION	Nfld., Que., Ont.:—Depts. of Health P.E.I., B.C.:—Depts. of Health and Welfare N.S.:—Dept. of Public Health N.B.:—Dept. of Health and Social Services Man.:—Dept. of Health and Public Welfare Sask.:—Dept. of Public Health, Nutrition Division Alta.:—Dept. of Agriculture, Nutri- tionist
	OCCUPATIONAL INFORMATION See "Employment"	
Dept. of Northern Affairs and National Resources (for Yukon and Northwest Territories) Dept. of Mines and Technical Surveys Geological Survey of Canada Mines Branch National Film Board (films, film- strips, photographs) Dominion Bureau of Statistics	OIL	Nfld.:—Dept. of Mines and Re- sources N.S., Ont., B.C.:—Depts. of Mines N.B.:—Dept. of Lands and Mines Man.:—Dept. of Mines and Natural Resources, Mines Branch Sask.:—Dept. of Mineral Resources Alta.:—Dept. of Mines and Minerals Bureau of Statistics

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of National Health and Welfare Old Age Assistance Division Dept. of Northern Affairs and National Resources Director of Old Age Assistance (Northwest Territories) Director of Old Age Assistance and Blind Persons Allowances (Yukon Territory)	OLD AGE ASSISTANCE	Nfld., N.S.:—The Old Age Assistance Board P.E.I., Ont.:—Director of Old Age Assistance N.B.:—The Old Age and Blind Assistance Board Que.:—Quebec Social Allowances Commission Man.:—The Old Age Assistance and Blind Persons' Allowances Board Sask.:—Dept. of Social Welfare, Public Assistance Division Alta.:—The Pensions Board B.C.:—Old-Age Assistance Board
Dept. of National Health and Welfare Old Age Security Division	OLD AGE SECURITY PENSIONS	
Dept. of Northern Affairs and National Resources National Parks Branch National Film Board (films, photographs) Federal District Commission	PARKS	N.S., Ont., Alta., B.C.:—Depts. of Lands and Forests N.B.:—Dept. of Lands and Mines Que.:—Dept. of Game and Fisheries Man.:—Dept. of Mines and Natural Resources, Forestry Branch Sask.:—Dept. of Provincial Secretary, Parks Branch
The Senate The House of Commons Library of Parliament	PARLIAMENT	Nfld.:—Dept. of Provincial Affairs P.E.I., N.B., Man., Sask., Alta., B.C.:—Legislative Assemblies N.S., Ont.:—Houses of Assembly Que.:—Legislative Council Legislative Assembly
Dept. of Secretary of State Patent and Copyright Office Trade Marks Office National Library (handles all copyright books)	PATENTS, COPYRIGHTS AND TRADE MARKS	
Dept. of Mines and Technical Surveys The National Air Photographic Library National Film Board Public Archives (historical)	PHOTOGRAPHIC MATERIAL See also "Motion Pictures" and "Tourist Trade"	Photographs are available from many provincial government departments in all provinces. See under "Motion Pictures".

Sources for Federal Data	Subject	Sources for Provincial Data
<p>Dominion Bureau of Statistics (for all census population statistics)</p> <p>Dept. of Northern Affairs and National Resources</p> <p>Northern Administration and Lands Branch (for Eskimos)</p> <p>Dept. of Citizenship and Immigration</p> <p>Canadian Citizenship Branch</p> <p>Citizenship Registration Branch</p> <p>Indian Affairs Branch (for Indians)</p> <p>Public Archives (early census and settlement records)</p>	POPULATION	<p>Nfld.:—Dept. of Health</p> <p>P.E.I.:—Travel Bureau</p> <p>N.S., Sask.:—Dept. of Public Health, Vital Statistics Branch</p> <p>N.B.:—Dept. of Health and Social Services, Vital Statistics Branch</p> <p>Que.:—Dept. of Health, Vital Statistics Branch</p> <p>Dept. of Trade and Commerce</p> <p>Bureau of Statistics</p> <p>Ont.:—Bureau of Statistics and Research</p> <p>Man.:—Dept. of Industry and Commerce</p> <p>Dept. of Municipal Affairs</p> <p>Alta.:—Dept. of Industries and Labour, Provincial Statistician</p> <p>B.C.:—Dept. of Health and Welfare</p> <p>Vital Statistics</p> <p>Dept. of Trade and Industry</p> <p>Bureau of Economics and Statistics</p>
<p>Post Office Department</p> <p>Administration Branch (general postal information, postage rates, both domestic and foreign, etc.)</p> <p>Transportation Branch (air, land and railway mail services)</p> <p>Financial Branch (information regarding money orders, savings bank, philatelic services, etc.)</p> <p>Operations Branch (information regarding postal service to the public and hours of service)</p> <p>Personnel Branch (personnel, training, employee services)</p>	POST OFFICE	
<p>Dept. of Agriculture</p> <p>Poultry Husbandry Division, Experimental Farms Service (for general information)</p> <p>Poultry Products Division (for marketing data)</p> <p>Livestock and Poultry Division (breeding programs, hatchery regulations, etc.)</p> <p>Animal Pathology Division (for poultry diseases)</p> <p>National Film Board (films and photographs)</p> <p>Dominion Bureau of Statistics</p>	POULTRY	<p>Nfld.:—Dept. of Mines and Resources</p> <p>P.E.I., N.S.:—Depts. of Agriculture</p> <p>N.B., Alta., B.C.:—Depts. of Agriculture, Poultry Branches</p> <p>Que.:—Dept. of Agriculture, Poultry Division</p> <p>Dept. of Trade and Commerce</p> <p>Bureau of Statistics</p> <p>Ont.:—Ontario Agricultural College (Guelph), Poultry Division</p> <p>Man.:—Dept. of Agriculture and Immigration</p> <p>Sask.:—Dept. of Agriculture, Animal Industry Branch</p>
	POWER See "Electric Power"	
<p>Dept. of Secretary of State</p> <p>Special Division</p>	PRECEDENCE AND CEREMONIAL	
<p>Dept. of Agriculture</p> <p>Marketing Service (prices of farm products)</p> <p>Agricultural Prices Support Board</p> <p>Dept. of Fisheries</p> <p>Fisheries Prices Support Board</p> <p>Dominion Bureau of Statistics</p>	PRICES	<p>Man.:—Dept. of Industry and Commerce</p> <p>Sask.:—Executive Council, Economic Advisory and Planning Board</p> <p>B.C.:—Bureau of Economics and Statistics</p>

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Secretary of State Registration Division	PUBLIC DOCUMENTS (Commissions of Appointment, Proclamations, Federal Land Grants, etc.)	
	PUBLIC HEALTH See "Health"	
Dominion Bureau of Statistics	PUBLIC UTILITIES See also "Electric Power"	Nfld.:—Public Utilities Board P.E.I., B.C.:—Public Utilities Com- missions N.S., N.B.:—Boards of Commis- sioners of Public Utilities Que.:—Public Service Board Ont.:—Ontario Municipal Board Man.:—Dept. of Public Utilities Sask.:—Government Finance Office Saskatchewan Government Tele- phones Saskatchewan Power Corporation Alta.:—Board of Public Utilities Commissioners Natural Gas Utilities Board
	PUBLIC WELFARE See "Welfare"	
Dept. of Labour Industrial Relations Branch (fair wages) Dept. of Public Works Information Services Dept. of Transport Marine, Canal and Air Services St. Lawrence Seaway Authority (St. Lawrence Seaway and Power Project)	PUBLIC WORKS	All Provinces except N.S.:—Depts. of Public Works N.S.:—Dept. of Highways and Public Works Ont.:—The Hydro-Electric Power Commission of Ontario (St. Lawrence Power Project)
Dept. of Transport Telecommunications Division (all matters affecting licences and facilities) Canadian Broadcasting Corporation (national broadcasting in Can- ada, including radio and tele- vision, regulations for control of programs, international short- wave service) National Research Council Division of Radio and Electrical Engineering (radio science and its application to industry)	RADIO	
	RAILWAYS See "Transportation"	

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Northern Affairs and National Resources Water Resources Branch Central Mortgage and Housing Corporation	RECON- STRUCTION AND DEVELOPMENT	Nfld.:—Dept. of Economic De- velopment P.E.I.:—Dept. of Industry and Natural Resources N.S.:—Depts. of Municipal Affairs, and Trade and Industry N.B.:—Dept. of Industry and De- velopment Que.:—Depts. of Lands and Forests, Labour, Roads, Trade and Com- merce, Social Welfare and Youth Ont.:—Dept. of Planning and De- velopment Man.:—Dept. of Industry and Com- merce Sask.:—Dept. of Social Welfare, Rehabilitation Division B.C.:—Dept. of Trade and Industry Bureau of Economics and Sta- tistics
Dept. of Northern Affairs and National Resources National Parks Branch Canadian Government Travel Bureau Northern Administration and Lands Branch (for N.W.T.) National Film Board (films, film- strips, photographs in connec- tion with the Dept. of National Health and Welfare) Dept. of Citizenship and Immigration Indian Affairs Branch (for Indians)	RECREATION <i>See also "Health"</i>	P.E.I., N.S., N.B., Que., Ont., Sask., B.C.:—Depts. of Edu- cation Man.:—Dept. of Health and Public Welfare Alta.:—Dept. of Economic Affairs, Community Recreation Branch
Dept. of Veterans Affairs Dept. of Labour Civilian Rehabilitation Branch Dept. of National Health and Welfare	REHABILITATION	P.E.I.:—Dept. of Education (Co- ordinator, Rehabilitation Branch) N.S.:—Dept. of Public Health (Provincial Rehabilitation Co- ordinator) N.B.:—Dept. of Health and Social Services (Provincial Co-ordi- nator of Rehabilitation) Que.:—Dept. of Social Welfare and Youth Dept. of Labour Man.:—Dept. of Health and Public Welfare (Provincial Co-ordi- nator of Rehabilitation Services) Sask.:—Dept. of Social Welfare, Rehabilitation Division Alta.:—Dept. of Public Welfare (Co-ordinator of Rehabilitation of Disabled Persons) B.C.:—Dept. of Health and Welfare (Rehabilitation Co-ordinator)
	RESEARCH <i>See "Economic and Social Research" and "Scientific Research"</i>	

Sources for Federal Data	Subject	Sources for Provincial Data
<p>National Research Council Laboratory Divisions (for investigations in applied biology, building research, pure and applied chemistry, mechanical engineering, including aeronautics and hydraulics, pure and applied physics, radio and electrical engineering) Division of Medical Research (Scholarships and grants-in-aid for graduate research in the universities) <i>Inquiries for general research information should be addressed to the Technical Information Service.</i> Dept. of Mines and Technical Surveys Dept. of National Defence, Directorate of Public Relations (Defence Research Board) Dept. of Northern Affairs and National Resources Forestry Branch National Parks Branch, Canadian Wildlife Services, National Museum of Canada Dept. of Agriculture Science Service (for research in botany and plant pathology, bacteriology, chemistry, entomology, etc.) Experimental Farms Service (for research in agricultural engineering, crop production, breeding and genetics, plant and animal nutrition, etc.) Production Service (for research in animal diseases) Dept. of Transport (aviation, radio, meteorology, navigation) Dept. of National Defence Defence Research Board, Directorate of Public Relations Dept. of Fisheries Fisheries Research Board of Canada Dept. of National Health and Welfare</p>	<p>SCIENTIFIC RESEARCH</p>	<p>Nfld.:—Dept. of Economic Development P.E.I.:—Dept. of Industry and Natural Resources N.S.:—Nova Scotia Research Foundation N.B.:—Dept. of Industry and Development, Research and Development Division Que.:—Dept. of Trade and Commerce, Scientific Research Bureau Ont.:—Ontario Research Foundation Man.:—Various Depts., such as Health and Welfare, Mines and Natural Resources, Agriculture and Immigration, Industry and Commerce Sask.:—Saskatchewan Research Council Alta.:—Alberta Research Council B.C.:—Dept. of Trade and Industry Research Council</p>

SENATE
See "Parliament"

SMALL LOANS
AND
MONEY-LENDERS
See "Banking"

Sources for Federal DataSubjectSources for Provincial DataSOCIAL
SECURITY

See

"Family
Allowances""Blindness
Allowances""Old Age
Assistance""Old Age
Security""Disabled Persons
Allowances""Workmen's
Compensation"

"Labour"

"Unemployment"

"Veterans Affairs"

"Economic and
Social Research"

SOCIAL WELFARE

See "Welfare"

Dept. of Trade and Commerce
Standards Branch (for inquiries
on electricity and gas inspection,
weights and measures, precious
metals marking, commodity
standards and national trade
mark matters)

Dept. of National Health and
Welfare (for standards and
method of control of quality or
potency of food and drugs)

Dept. of Agriculture (for inquiries
on standards for meat and
canned food, fruit, honey, maple
products, vegetables, dairy prod-
ucts, poultry, etc.)

Dept. of Transport (standards in
radio frequencies, standards in
steamship inspection)

National Research Council
Applied Physics Division (funda-
mental physical and electrical
standards)

Division of Building Research,
Specifications Section

Dept. of Fisheries (standards of fish
products)

Canadian Government Specifications
Board (specifications for pur-
chasing)

Canadian Standards Association
Central Mortgage and Housing
Corporation

STANDARDS
AND
SPECIFICATIONS

Sources for Federal Data	Subject	Sources for Provincial Data
	STEAMSHIPS See "Transportation"	
	SUCCESSION DUTIES See "Taxation"	
Dept. of National Revenue Taxation Division (Income Tax and Succession Duties statistics and information) Customs and Excise Division (Customs, Excise and Sales Tax statistics and information) Dept. of Finance (Budget papers reviewing taxation policy, changes in rates, revenue fore- casts)	TAXATION	Nfld., Que.:—Depts. of Finance P.E.I.:—Provincial Treasurer N.S.:—Dept. of Provincial Secretary N.B.:—Dept. of Provincial Sec- retary-Treasurer Ont.:—Provincial Treasurer's Dept. Man., Sask.:—Provincial Treasury Depts. Alta.:—Provincial Treasurer's Dept. Provincial Secretary B.C.:—Dept. of Finance, Surveyor of Taxes
	TELEGRAPHS AND TELEPHONES See "Communications"	
Canadian Broadcasting Corporation Dept. of Transport Telecommunications Division National Research Council	TELEVISION See also "Radio"	
Dept. of Mines and Technical Surveys Surveys and Mapping Branch National Research Council Applied Physics Division (photo- grammetric research)	TOPOGRAPHY	Nfld.:—Dept. of Mines and Re- sources N.S.:—Dept. of Mines, Nova Scotia Research Foundation N.B.:—Dept. of Lands and Mines Que.:—Dept. of Lands and Forests Dept. of Trade and Commerce Cartography Service Ont.:—Dept. of Lands and Forests, Surveys Branch Man.:—Dept. of Mines and Natural Resources Sask.:—Dept. of Natural Resources Alta., B.C.:—Depts. of Lands and Forests
Dept. of Northern Affairs and National Resources National Parks Branch Canadian Government Travel Bureau Dept. of Trade and Commerce Canadian Government Exhibition Commission (displays) National Film Board (films, photo- graphs) Dominion Bureau of Statistics	TOURIST TRADE	Nfld.:—Dept. of Economic De- velopment P.E.I.:—Tourist and Information Branch N.S.:—Dept. of Public Health, Pub- licity Bureau N.B.:—New Brunswick Travel Bu- reau Que.:—Provincial Tourist Bureau Ont.:—Dept. of Travel and Pub- licity Man.:—Dept. of Industry and Commerce Sask.:—Bureau of Publications, Tourist Branch Alta.:—Dept. of Economic Affairs, Alberta Travel Bureau B.C.:—Dept. of Trade and Industry, Government Travel Bureau

Sources for Federal Data	Subject	Sources for Provincial Data
<p>Dept. of Trade and Commerce Trade Commissioner Service Commodities Branch (for exports, imports, transportation, etc.) Agriculture and Fisheries Branch Economics Branch Industrial Development Branch Information Branch International Trade Relations Branch Canadian Government Exhibition Commission Export Credits Insurance Corporation Standards Branch (weights and measures) International Economic and Technical Co-operation Division (Colombo Plan) Dept. of Northern Affairs and National Resources Canadian Government Travel Bureau Dept. of Secretary of State Companies Division National Film Board (films, filmstrips, photographs, for exhibition publicity purposes) Dominion Bureau of Statistics</p> <p>Dept. of Secretary of State Bureau for Translations</p> <p>Dept. of National Defence, Directorate of Public Relations (Army) (for maintenance of Alaska Highway) Dept. of Public Works (Trans-Canada Highway, roads and bridges in National Parks and international and inter-provincial bridges) Development Engineering Branch Information Services Dept. of Northern Affairs and National Resources National Parks Branch (for highways in National Parks) Board of Transport Commissioners (regulations re construction and operation of railways; construction and protection of highway crossings; rates of railways, express companies and certain inland water carriers; rates with respect to communications, international bridges and tunnels; issuing of licences to certain inland water carriers; regulations re construction of oil and gas pipelines; statistics pertaining to transportation) Air Transport Board (regulation of commercial air services) Dept. of Transport (railways, civil aviation, marine services, steamship inspection, canals, etc.) Canadian Maritime Commission National Harbours Board St. Lawrence Seaway Authority Trans-Canada Air Lines Northern Transportation Company Limited Dept. of National Health and Welfare Civil Aviation Medicine Division National Film Board (films, filmstrips, photographs) Dominion Bureau of Statistics (statistics of transportation, including highways, motor vehicles)</p>	<p>TRADE</p> <p>TRANSLATION</p> <p>TRANSPORTATION</p>	<p>For incorporation of companies under provincial law, address Provincial Secretaries except B.C. where Attorney-General's Department is the authority. Nfld.:—Dept. of Economic Development P.E.I.:—Dept. of Industry and Natural Resources N.S., B.C.:—Depts. of Trade and Industry N.B.:—Dept. of Industry and Development Que.:—Dept. of Trade and Commerce Ont.:—Dept. of Planning and Development, Trade and Industry Branch Man.:—Dept. of Industry and Commerce Sask.:—Dept. of Co-operation and Co-operative Development, Trade and Business Information Services Saskatchewan Marketing Services Executive Council, Industrial Development Office Alta.:—Dept. of Industries and Labour</p> <p>Nfld.:—Dept. of Public Works P.E.I.:—Dept. of Public Works and Highways N.S.:—Dept. of Highways and Public Works N.B.:—Dept. of Public Works Highways Branch Que.:—Dept. of Roads, Transportation Board Ont.:—Dept. of Highways, Ontario Northland Transportation Commission Man.:—Dept. of Public Works Highways Branch Dept. of Mines and Natural Resources Dept. of Public Utilities Dept. of Industry and Commerce Sask.:—Dept. of Highways and Transportation Saskatchewan Transportation Company Alta.:—Dept. of Railways and Telephones Dept. of Highways, Highway Traffic Board B.C.:—Dept. of Railways Public Utility Commission Dept. of Public Works Bureau of Economics and Statistics</p>

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Northern Affairs and National Resources Northern Administration and Lands Branch (Yukon and Northwest Territories) National Parks Branch Dept. of Citizenship and Immigration Indian Affairs Branch National Film Board (films, photographs) Dominion Bureau of Statistics (for general trapping statistics)	<div>TRAPPING</div> <div>See also "Fur Farming"</div>	Nfld.:—Dept. of Mines and Resources P.E.I.:—Dept. of Industry and Natural Resources N.S., Ont., Alta.:—Depts. of Lands and Forests N.B.:—Dept. of Lands and Mines Que.:—Dept. of Game and Fish Man.:—Dept. of Mines and Natural Resources Sask.:—Dept. of Natural Resources Fur Marketing Service B.C.:—Attorney - General's Dept. Provincial Game Commissioner
	<div>TRUST AND LOAN COMPANIES</div> <div>See "Banking"</div>	
Dept. of Labour Economics and Research Branch Unemployment Insurance Commission Dominion Bureau of Statistics	<div>UNEMPLOYMENT</div>	Nfld., Sask.:—Dept. of Labour Ont.:—Dept. of Public Welfare Bureau of Statistics and Research B.C.:—Bureau of Economics and Statistics
Dept. of Veterans Affairs (general information, rehabilitation, veterans' welfare, training, treatment, land settlement, gratuities, re-establishment credit, education of children of war dead, veterans' insurance, business and professional loans, records of service, war graves and medals) Canadian Pension Commission (The Pension Act) War Veterans Allowance Board (The War Veterans Allowance Act) Dept. of Labour (unemployment insurance and war veteran allowances, reinstatement, vocational training) Dept. of Finance (veterans business and professional loans) National Film Board (films, photographs) Dept. of Citizenship and Immigration Indian Affairs Branch (for Indian veterans)	<div>VETERANS AFFAIRS</div>	P.E.I.:—Provincial Secretary N.S.:—Dept. of Public Welfare N.B.:—Dept. of Health and Social Services Que.:—Dept. of Social Welfare and Youth Ont.:—Dept. of Public Welfare, Soldiers Aid Commission Sask.:—Dept. of Social Welfare, Rehabilitation Division Alta.:—Veterans Welfare Advisory Commission B.C.:—Dept. of Provincial Secretary
Dominion Bureau of Statistics Dept. of Northern Affairs and National Resources Northern Administration and Lands Branch (for Yukon and Northwest Territories) Public Archives (early census records)	<div>VITAL STATISTICS</div>	Nfld., B.C.:—Depts. of Health P.E.I.:—Registrar of Births, Deaths and Marriages N.S., Alta.:—Depts. of Public Health Registrars General N.B.:—Dept. of Health and Social Service Que.:—Dept. of Health Vital Statistics Branch Ont.:—Dept. of Provincial Secretary Vital Statistics Branch Man.:—Dept. of Health and Public Welfare Sask.:—Dept. of Public Health, Vital Statistics Branch
Dept. of Labour Industrial Relations Branch (fair wages) Economics and Research Branch Legislation Branch Dominion Bureau of Statistics	<div>WAGES</div> <div>(including Working Conditions)</div>	All Provinces except Alta.:—Depts. of Labour Alta.:—Dept. of Industries and Labour Additional:—B.C.:—Dept. of Trade and Industry, Bureau of Economics and Statistics

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Northern Affairs and National Resources Water Resources Branch Dept. of Fisheries (where fishery resources are affected) Dept. of Agriculture Prairie Farm Rehabilitation Administration Dept. of Mines and Technical Surveys (groundwater supplies and industrial water resources)	WATER RESOURCES	Nfld.:—Dept. of Mines and Resources N.S.:—Nova Scotia Power Commission N.B.:—Dept. of Lands and Mines Que.:—Dept. of Hydraulic Resources Ont.:—Depts. of Planning and Development; Lands and Forests Man.:—Dept. of Mines and Natural Resources, Water Resources Branch Sask., Alta.:—Depts. of Agriculture B.C.:—Dept. of Lands and Forests
Dept. of Transport Meteorological Division, Toronto National Research Council Division of Building Research Climatological Atlas of Canada	WEATHER	
Dept. of National Health and Welfare Welfare Branch Research Division Dept. of Labour Unemployment Insurance Commission Annuities Branch National Advisory Committee on the Rehabilitation of Disabled Persons Dept. of Northern Affairs and National Resources Northern Administration and Lands Branch (for Eskimos) Yukon Territorial Council, Dawson (for Y.T.) Northwest Territories Council, Ottawa (for N.W.T.) Dept. of Citizenship and Immigration Indian Affairs Branch (for Indians) National Film Board (films, photographs) Dominion Bureau of Statistics	WELFARE For 'Welfare of Veterans' See "Veterans Affairs"	Nfld., N.S., Ont., Alta.:—Depts. of Public Welfare P.E.I., B.C.:—Depts. of Health and Welfare N.B.:—Dept. of Health and Social Services Que.:—Dept. of Social Welfare and Youth Man.:—Dept. of Health and Public Welfare Sask.:—Dept. of Social Welfare
Dept. of Northern Affairs and National Resources (also for Northwest Territories) National Parks Branch National Wildlife Service National Museum of Canada Commissioner of Yukon Territory, Whitehorse (for Y.T.) National Film Board (films, photographs) Dept. of Fisheries Information and Educational Service	WILDLIFE	Nfld.:—Dept. of Mines and Resources P.E.I.:—Dept. of Industry and Natural Resources N.S., Ont., Alta.:—Depts. of Lands and Forests N.B.:—Dept. of Lands and Mines Que.:—Dept. of Game and Fish Man.:—Dept. of Mines and Natural Resources Sask.:—Dept. of Natural Resources, Game Commissioner B.C.:—Attorney General's Dept. Provincial Game Commissioner
Dept. of Labour Government Employees' Compensation Branch Merchant Seamen Compensation Board	WORKMEN'S COMPENSATION	Provincial Workmen's Compensation Boards at: Nfld.:—St. John's P.E.I.:—Charlottetown N.S.:—Halifax; N.B.:—Saint John Ont.:—Toronto; Man.:—Winnipeg Sask.:—Regina; Alta.:—Edmonton B.C.:—Vancouver Que.:—Workmen's Compensation Commission

PART II.—SPECIAL MATERIAL PUBLISHED IN FORMER EDITIONS OF THE CANADA YEAR BOOK

It is not possible to include in any single edition of the Year Book all articles and descriptive text of previous editions. Therefore the following list has been compiled as an index to such miscellaneous material and special articles as are not repeated in the present edition. This list links up the 1956 Year Book with its predecessors in respect of matters that have not been subject to wide change. Those Sections of Chapters, such as "Population", which are automatically revived when later Census material is made available and to which adequate references are made in the text, are not listed unless they are in the nature of special contributions. The latest published article on each subject is shown, except when an earlier article includes material not repeated in the later one. When an article covers more than one subject it is listed under each appropriate heading.

The articles marked with an asterisk (*) are available in reprint form from the Dominion Statistician at the price quoted.

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The Development of Agriculture in Canada.....	J. H. GRISDALE, D.Sc.A.	1924	186-191
Prairie Farm Rehabilitation Program.....	WILLIAM DICKSON.	1938	223-230
Historical Background of Canadian Agriculture.....	G. S. H. BARTON, C.M.G., B.S.A., D.Sc.A.	1939	187-190
The War and Canadian Agriculture.....	—	1945	188-191
Agricultural Marketing Legislation, 1939.....	—	1940	181-185
Canadian Agriculture during the War and Post-War Periods.....	G. S. H. BARTON, C.M.G., B.S.A., D.Sc.A.	1946	200-211
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*The Canadian Wheat Board, 1939-46.....	{ C. B. DAVIDSON. T. W. GRINDLEY. W. G. MALAHER. C. V. PARKER. }	1947	778-813
The Major Soil Zones and Regions of Canada.....	P. C. STOBBE.	1951	352-356
Agricultural Irrigation and Land Conserva- tion.....	—	1951	367-379
Grain Trade—Marketing Problems and Policies, 1949-52.....	—	1952-53	865-869
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Art in Canada.....	—	1924	886-888
The Development of the Fine Arts in Canada.....	NEWTON MCTAVISH, M.A., D. Litt.	1931	995-1009
A Bibliography of Canadian History.....	GUSTAVE LANCTOT, LL.M., D. Litt., LL.D., K.C., F.R.S.C.	1939	36-40
The Development of the Press in Canada....	A. E. MILLWARD, B.A., B. Com.	1939	737-773
*The Democratic Functioning of the Press (10 cts.).....	SENATOR, THE HON. W. A. BUCHANAN.	1945	744-748
Royal Commission on National Develop- ment in the Arts, Letters and Sciences....	—	1951	315-316
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The Royal Canadian Mint.....	H. E. EWART.	1940	888-892
The Wartime Functions of a Central Bank...	—	1942	803-806
Wartime Control under the Foreign Exchange Control Board.....	R. H. TARR.	{ 1941 1942	833-835 830-833
*The Underwriting and Distribution of Investments; their Influence on the Capital Market (10 cts.).....	Investment Dealers Association of Canada.	1950	1088-1095
Post-War Financial Policy.....	—	1954	1061-1064
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Droughts in Western Canada.....	A. J. CONNOR, M.A.	1933	47-59
*Meteorology Related to the Science of Aviation (10 cts.).....	J. PATTERSON, O.B.E., LL.D.	1943-44	24-29
The Climate of Canada (textual article).....	A. J. CONNOR, M.A.	1948-49	41-62
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Communications—			
*The Democratic Functioning of the Press (10 cts.).....	SENATOR, THE HON. W. A. BUCHANAN.	1945	744-748
*History and Development of the Canadian Broadcasting Corporation (10 cts.).....	DR. AUGUSTIN FRIGON, C.M.G.	1947	737-740
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The Evolution of the Constitution of Canada down to Confederation.....	S. A. CUDMORE, B.A. (Tor.), M.A. (Oxon.), F.S.S., F.R. Econ. Soc., and E. H. COLEMAN, K.C., LL.D.	1942	34-40

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*Canada's Part in the Relief and Rehabilitation of the Occupied Territories (10 cts.)...	—	1945	79-85
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A Historical Sketch of Criminal Law and Procedure.....	R. E. WATTS.	1932	897-899
*The Influence of the Royal Canadian Mounted Police in the Building of Canada (25 cts.)...	S. T. WOOD, C.M.G.	1950	317-331
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*The Pulp and Paper Industry in Canada (10 cts.).....	—	1952-53	467-475
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*International Civil Aviation Organization and Canada's Participation Therein (10 cts.)	BRIG. C. S. BOOTH.	1952-53	820-827			
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*History of the Canadian National Railways (10 cts.).....	—	1955	840-851			
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PART III.—REGISTER OF OFFICIAL APPOINTMENTS

The following list of official appointments continues up to June 30, 1956 the list published in the 1955 Year Book at pp. 1317-1324.

Governor General's Staff.—1955. *June 6*, Hon. Douglas Charles Abbott, a Puisne Judge of the Supreme Court of Canada: to be Deputy of His Excellency the Governor General. *June 20*, Lieutenant-Commander J. M. Favreau, RCN: to be Honorary Aide-de-Camp. *Aug. 31*, Commodore E. W. Finch-Noyes, C.D., RCN: to be Honorary Aide-de-Camp. *Dec. 1*, Assistant Commissioner Donald Anthony McKinnon and Inspector Kenneth Shakespeare: to relinquish appointments of Honorary Aide-de-Camp. Inspector Jack Dawson Lee of the Royal Canadian Mounted Police, Prince George, B.C., Inspector Walter Malcolm Taylor of the Royal Canadian Mounted Police, Prince Rupert, B.C., Inspector William Dick of the Royal Canadian Mounted Police, North Bay, Ont., and Inspector Edward LeDrew Martin of the Royal Canadian Mounted Police, Halifax, N.S.: to be Honorary Aides-de-Camp. *Dec. 22*, Acting Commander J. N. Kenny, RCN (R): to be Honorary Aide-de-Camp. **1956.** *Jan. 15*, Superintendent Douglas Oswald Forrest of the Royal Canadian Mounted Police, Fredericton, N.B.: to be Honorary Aide-de-Camp. *Feb. 2*, Inspector Ronald James Herman of the Royal Canadian Mounted Police, Halifax, N.S.: to be Honorary Aide-de-Camp. Inspector W. H. G. Nevin: to relinquish appointment of Honorary Aide-de-Camp. *Mar. 1*, Lieutenant-Colonel I. P. Phelan, M.C.: to be Honorary Aide-de-Camp.

Lieutenant-Governors.—1955. *Sept. 7*, Frank McKenzie Ross, C.M.G., M.C.: to be Lieutenant-Governor of the Province of British Columbia, effective Oct. 3, 1955.

Cabinet Ministers.—1955. *Nov. 3*, Hon. Hugues Lapointe, a Member of the Queen's Privy Council for Canada: to be Postmaster General.

Senators.—1955. *July 28*, Donald Cameron, Edmonton, Alta.: to be a Member of the Senate and a Senator for the Province of Alberta. William M. Wall, Winnipeg, Man.: to be a Member of the Senate and a Senator for the Province of Manitoba. David Croll, M.P., Toronto, Ont.: to be a Member of the Senate and a Senator for the Province of Ontario. Thomas D'Arcy Leonard, C.B.E., Q.C., Toronto, Ont.: to be a Member of the Senate and a Senator for the Province of Ontario. Fred A. McGrand, M.D., C.M., Fredericton, N.B.: to be a Member of the Senate and a Senator for the Province of New Brunswick. Calixte F. Savoie, Moncton, N.B.: to be a Member of the Senate and a Senator for the Province of New Brunswick. Donald Smith, D.D.S., Liverpool, N.S.: to be a Member of the Senate and a Senator for the Province of Nova Scotia. Hon. Harold Connolly, M.L.A., Halifax, N.S.: to be a Member of the Senate and a Senator for the Province of Nova Scotia. Mrs. Florence Elsie Inman, Montague, P.E.I.: to be a Member of the Senate and a Senator for the Province of Prince Edward Island. J. T. Hackett, Q.C., Montreal, Que.: to be a Member of the Senate and a Senator for the division of Victoria in the Province of Quebec. Hartland de Montarville Molson, O.B.E., C.A., Montreal, Que.: to be a Member of the Senate and a Senator for the division of Alma in the Province of Quebec. Hon. C. G. Power, M.C., M.P., St. Pacôme, Que.: to be a Member of the Senate and a Senator for the division of Gulf in the Province of Quebec. J. F. Pouliot, M.P., Rivière-du-Loup, Que.: to be a Member of the Senate and a Senator for the division of De la Durantaye in the Province of Quebec.

Clerk of the Senate and Clerk of the Parliament.—1955. *July 28*, John Forbes MacNeill, Q.C.: to be Clerk of the Senate and Clerk of the Parliament, effective Oct. 22, 1955.

Parliamentary Assistants.—1956. *Feb. 9*, Joseph Adeodat Blanchette, M.P.: to be Parliamentary Assistant to the Minister of Labour. Lucien Cardin, M.P.: to be Parliamentary Assistant to the Secretary of State for External Affairs. Paul Theodore Hellyer, M.P.: to be Parliamentary Assistant to the Minister of National Defence.

Deputy Ministers.—1955. *June 8*, Air Marshal Frank R. Miller: to be Deputy Minister of National Defence, effective Aug. 15, 1955, *vice* C. M. Drury, resigned effective July 25, 1955. *July 28*, Georges Lucien Lalonde, Assistant Deputy Minister of Veterans Affairs: to be Deputy Minister of Veterans Affairs, effective Aug. 1, 1955, *vice* Major General E. L. M. Burns.

Diplomatic Appointments.—1955. *June 23*, Evan Benjamin Rogers: as Ambassador of Canada to Peru. Dr. Robert Alexander MacKay: as Permanent Representative of Canada to the United Nations in New York. *Aug. 5*, L. P. Picard, Q.C.: as Ambassador of Canada to Argentina. *Aug. 16*, Alfred Rive: as Ambassador of Canada to Ireland. *Sept. 16*, Jean Antoine Chapdelaine: as Minister of Canada to Sweden and concurrently as Minister of Canada to Finland. **1956.** *Jan. 5*, Léon Mayrand: as Ambassador of Canada to Madrid, Spain. *Jan. 11*, Herbert Frederick Brooks-Hill Feaver: to be changed from Minister to Ambassador of Canada to Copenhagen, Denmark. Richard Plant Bower: as Ambassador of Canada to Caracas, Venezuela. *Apr. 12*, Jean Antoine Chapdelaine, Envoy Extraordinary and Minister Plenipotentiary of Canada to Sweden: as Ambassador of Canada to Sweden. Kenneth Porter Kirkwood: as High Commissioner for Canada to New Zealand, effective July 1, 1956. Egerton Herbert Norman: as Ambassador of Canada to Egypt and concurrently as Envoy Extraordinary and Minister Plenipotentiary to Lebanon, effective July 15, 1956. David Moffat Johnson: as Ambassador of Canada to the Union of Soviet Socialist Republics, effective July 15, 1956.

Judicial Appointments

Higher Courts.—1955. *Jan. 13*, Hon. John Evans Adamson, a Judge of the Court of Appeal for Manitoba: to be Chief Justice of the Court of Appeal for Manitoba, with the style and title of Chief Justice of Manitoba, and ex officio a Judge of the Court of Queen's Bench for Manitoba. Hon. Ivan Schultz, Q.C., Winnipeg, Man.: to be a Judge of the Court of Appeal for Manitoba and ex officio a Judge of the Court of Queen's Bench for Manitoba. *Mar. 1*, Edwin George Thompson, Q.C., Stratford, Ont.: to be Judge of the Supreme Court of Ontario and a Member of the High Court of Justice for Ontario and ex officio a Member of the Court of Appeal for Ontario. Hon. Walter Frank Schroeder, a Judge of the Supreme Court of Ontario and a Member of the High Court of Justice for Ontario: to be a Member of the Court of Appeal for Ontario and ex officio a Member of the High Court of Justice for Ontario. *Mar. 23*, Louis McCoskery Ritchie, Q.C., Saint John, N.B.: to be a Puisne Judge of the Exchequer Court of Canada, effective Apr. 21, 1955. *July 12*, André Taschereau, Q.C.: to be Puisne Judge of the Court of Queen's Bench in and for the Province of Quebec, effective Oct. 1, 1955. Sherwood Lett, Q.C.: to be Chief Justice of the Supreme Court of British Columbia, effective Sept. 1, 1955. Hon. James Moses Coady, a Judge of the Supreme Court of British Columbia: to be a Justice of Appeal of the Court of Appeal for British Columbia, effective Sept. 1, 1955. William Morin, Q.C.: to be appointed Puisne Judge of the Superior Court for the District of Quebec in the Province of Quebec, effective Sept. 1, 1955. *July 28*, John B. McNair, Q.C.: to be a Judge of the Appeal Division of the Supreme Court of New Brunswick. Marie-Alfred Elzear Gabriel Roger Belleau, Q.C.: to be Registrar of the Exchequer Court of Canada. *Sept. 1*, George Robert Whitely Owen, Q.C.: to be a Puisne Judge of the Court of Queen's Bench in and for the Province of Quebec, effective Oct. 1, 1955. *Aug. 16*, Georges F. Reid, Q.C.: to be a Puisne Judge of the Superior Court for the District of Montreal in the Province of Quebec. Charles A. Sylvestre, Q.C.: to be a Puisne Judge of the Superior Court for the District of Montreal in the Province of Quebec, effective Oct. 1, 1955. *Sept. 16*, Roger Ouimet, Q.C.: to be a Puisne Judge of the Superior Court for the District of Montreal in the Province of Quebec, effective Oct. 15, 1955. *Sept. 28*, Hon. John Babbitt McNair, a Judge of the Appeal Division of the Supreme Court of New Brunswick: to be Chief Justice of the Appeal Division of the Supreme Court of New Brunswick, with the style and title of Chief Justice of New Brunswick, effective Oct. 1, 1955. Hon. George Frederick Gregory Bridges, a Judge of the Queen's Bench Division of the Supreme Court of New Brunswick: to be a Judge of the Appeal Division of the Supreme Court of New Brunswick, effective Oct. 1, 1955. *Oct. 4*, Jean Pierre Charbonneau, Q.C.: to be a Puisne Judge of the Superior Court for the District of Montreal in the Province of Quebec, effective Nov. 1, 1955. *Oct. 7*, His Honour Arthur Edward Lord, a Judge of the County Court of Vancouver: to be a Judge of the Supreme Court of British Columbia, effective Oct. 8, 1955. F. A. Sheppard, Q.C.: to be a Justice of Appeal of the Court of Appeal for British Columbia, effective Oct. 14, 1955. *Nov. 9*, Jacques Dumoulin, Q.C.: to be a Puisne Judge of the Exchequer Court of Canada, effective Dec. 1, 1955. *Nov. 16*, Hon. James D. Hyndman: to be a Deputy Judge of the Exchequer Court of Canada for an indefinite period. *Nov. 30*, Constable Joseph Raymond Johnson, Royal Canadian Mounted Police Detachment, Pond Inlet, Northwest Territories: to act as a Court for the purposes of the Canadian Citizenship Act. *Dec. 14*, Hon. Louis McCoskery Ritchie: to be a Judge of the Appeal Division of the Supreme Court of New Brunswick, effective Jan. 16, 1956. **1956.** *Feb. 9*, His Honour Harry Joseph Sullivan, Judge of the County Court of Westminster in the Province of British Columbia: to be a Judge of the Supreme Court of British Columbia. *Mar. 1*, Henry G. Nolan, Q.C.: to be a Puisne Judge of the Supreme Court of Canada.

County and District Courts.—**1955.** *Jan. 13*, His Honour Judge Walter E. Darby, Judge of the County Court of Prince County in the Province of Prince Edward Island: to act as Juvenile Court Judge for the Town of Summerside in the Province of Prince Edward Island, *vice* Judge Lloyd G. Lewis, deceased. *Feb. 17*, J. T. Calligan, Q.C., Pembroke, Ont.: to be Judge of the County Court of the County of Renfrew and also a Local Judge of the High Court of Justice for Ontario. *Apr. 27*, Gordon Alexander McIntyre: to act as Juvenile Court Judge for the Mining Districts of Mayo and Dawson, Yukon Territory, south of the sixty-sixth parallel of north latitude. *Apr. 29*, H. A. Rutherford, Q.C.: to be Judge of the District Court of the Judicial District of Estevan in the Province of Saskatchewan. His Honour John Ross MacDonald: to be Judge of the District Court of the Judicial District of Melfort in the Province of Saskatchewan. R. S. E. Walshe, Q.C.: to be Judge of the District Court of the Judicial District of Arcola in the Province of Saskatchewan. *June 15*, Frances Lillian Thomson: to be Clerk of the Territorial Court of the Northwest Territories for the Yellowknife-Mackenzie Judicial District and Clerk of the Police Magistrate's Court of the Northwest Territories, effective Apr. 1, 1955. *July 28*, Adrien J. Cormier, Barrister-at-Law: to be Judge of the County Court for the Counties of Kent and Westmorland in the Province of New Brunswick. *Sept. 16*, His Honour Judge John H. Sissons, Chief Judge of the District Court of the District of Southern Alberta in the Province of Alberta: to be Judge of the Territorial Court of the Northwest Territories. His Honour Elmer Best Feir, Judge of the District Court of the District of Southern Alberta in the Province of Alberta: to be Chief Judge of the District Court of the District of Southern Alberta. L. S. Turcotte, Barrister-at-Law: to be a Judge of the District Court of the District of Southern Alberta, also a Local Judge of the Supreme Court of Alberta. *Sept. 28*, His Honour Charles Jordan Jones, Judge of the County Court for the Counties of Carleton, Charlotte, Victoria and Madawaska, in the Province of New Brunswick: to be a Judge of the Queen's Bench Division of the Supreme Court of New Brunswick, effective Oct. 1, 1955. D. Raymond Bishop, Q.C.: to be Judge of the County Court for the Counties of Carleton, Charlotte, Victoria and Madawaska, in the Province of New Brunswick, effective Oct. 1, 1955. *Oct. 7*, Alfred H. J. Swencisky, Barrister-at-Law: to be Judge of the County Court of Vancouver, in the Province of British Columbia and a Local Judge of the Supreme Court of British Columbia, effective Oct. 8, 1955. *Nov. 3*, Genevieve Anne Driscoll: to be Clerk of the Police Magistrate's Court of the Northwest Territories and Deputy Clerk of the Territorial Court of the Northwest Territories for the Yellowknife-Mackenzie Judicial District, and Laurence Hudson Phinney: to be Deputy Clerk of the Police Magistrate's Court of the Northwest Territories, effective Nov. 1, 1955. Evelyn Groom Thompson: to be Clerk of the Police Magistrate's Court for the Yukon Territory, and Winifred E. Clark: to be Court Reporter of the Yukon Territory, effective Oct. 1, 1955. *Nov. 16*, H. W. Pope, Q.C.: to be Judge of the District Court of the Judicial District of Moose Jaw in the Province of Saskatchewan, effective Nov. 17, 1955. *Dec. 7*, Winifred E. Clark: to be Deputy Clerk of the Territorial Court for the Yukon Territory for a period of three months commencing Dec. 1, 1955. Constable Donald James Berkey, of the RCMP: to be Clerk of the Territorial Court for the Northwest Territories for the Yellowknife-Mackenzie Judicial District, and Sheriff for the Yellowknife-Mackenzie Judicial District, Northwest Territories, to hold such offices until permanent appointments are made thereto. *Dec. 14*, Franklyn McCallum Griffiths, Q.C.: to be Junior Judge of the County Court of the County of Welland in the Province of Ontario, and also a Local Judge of the High Court of Justice for Ontario. **1956.** *Jan. 11*, Hon. John Howard Sissons, Judge of the Territorial Court for the Northwest Territories: to be a Deputy Judge of the Territorial Court for the Yukon Territory for the period commencing the date hereof and ending Jan. 15, 1961. Hon. John Edward Gibben, Judge of the Territorial Court for the

Yukon Territory: to be a Deputy Judge of the Territorial Court for the Northwest Territories for the period commencing the date hereof and ending Jan. 15, 1961. *Jan. 25*, W. G. E. Campbell, Barrister-at-Law: to be Judge of the District Court of the Judicial District of Estevan in the Province of Saskatchewan. His Honour Henry Adelbert Rutherford: to be Judge of the District Court of the Judicial District of Yorkton in the Province of Saskatchewan. *Feb. 9*, G. W. Bruce Fraser, Barrister-at-Law: to be a Judge of the County Court of Westminster in the Province of British Columbia, and also a Local Judge of the Supreme Court of British Columbia. *May 10*, Charles William Morrow, Q.C.: to be a Judge of the County Court of Cariboo in the Province of British Columbia, and also a Local Judge of the Supreme Court of British Columbia. *June 14*, Thomas W. Brown, Q.C.: to be a Judge of the Supreme Court of British Columbia. John G. Ruttan, Barrister-at-Law: to be a Judge of the Supreme Court of British Columbia.

Government Appointments to Miscellaneous Boards, Commissions, etc.

Air Transport Board.—1955. Jan. 21, Gerald Morrisset, Ottawa, Ont.: to be a Member for a period of ten years effective Jan. 21, 1955.

Atomic Energy Control Board.—1956. Mar. 1, George C. Bateman and William J. Bennett: to be again Members for a further term expiring Mar. 31, 1959.

Bank of Canada.—1955. July 22, Arthur M. Day, M.D.: to be a Director for the period Aug. 18, 1955 to Feb. 28, 1958, the remainder of the term of G. G. Coote. **1956. Mar. 15**, The following persons to be Directors for a term of three years beginning on Mar. 1, 1956: N. A. Hesler, A. C. Picard, J. M. Buchanan, and R. M. Milliken, Q.C.

Belleville Harbour Commissioners.—1956. Mar. 1, A. H. Ketcheson and Herbert McCabe: to be again Commissioners, each for a term of three years commencing Nov. 1, 1955.

Board of Transport Commissioners for Canada.—1955. Aug. 16, Leonard J. Knowles: to be a Member, effective Sept. 1, 1955, in the place of O. A. Matthews.

Canadian Broadcasting Corporation.—1955. Apr. 1, Gordon Arnaud Winter: to be again Governor for a further period of three years from Apr. 1, 1955. Roy J. Fry: to be again Governor for a further period of three years from Apr. 1, 1955. *Sept. 2*, Gerard Gingras: to be a Governor for a period of three years from Sept. 1, 1955.

Canadian Overseas Telecommunication Corporation.—1956. Mar. 8, Alfred Frederic Mercier: to be a Director for a term of three years commencing Mar. 15, 1956, *vice* Lieutenant-Colonel Henri Gagnon. Lieutenant-Commander Charles Peter Edwards: to be again a Director for a further term of three years commencing Mar. 15, 1956.

Canadian Pension Commission.—1955. May 13, Russell Charles Gordon, C.B.E., C.D.: to be a Member for a period of ten years from June 15, 1955. *Sept. 16*, Stephen G. Mooney, Q.C.: to be a Member for a period of ten years from Oct. 1, 1955. *Nov. 3*, Lieutenant-Colonel Ulric Blier: to be a Member for a period of ten years, effective Nov. 16, 1955. **1956. Mar. 15**, Brigadier C. B. Topp, C.B.E., D.S.O., M.C. and Bar, Chief Pensions Advocate, Department of Veterans Affairs: to be an *ad hoc* Member for a period of one year.

Canadian Wheat Board.—1955. July 6, J. H. Brownlee, W. J. Parker, C. P. Hansen, J. H. Wesson, Roy Marler and Ben Plumer: to be Members of the Advisory Committee.

Central Mortgage and Housing Corporation.—1955. Mar. 8, R. B. Bryce, Clerk of the Privy Council and Secretary to the Cabinet: to be a Director, *vice* J. E. Coyne. W. J. Waines: to be again a Director for a further term of three years from Mar. 31, 1955. 1956. Apr. 26, Mrs. Monica McQueen and Edward F. Charlton: to be Directors for a period expiring Mar. 31, 1959.

Civil Service Commission.—1955. Oct. 4, Stanley Gilbert Nelson: to be again a Member for a further term of two years and also to be Chairman, effective Sept. 6, 1955.

Court under Canadian Citizenship Act.—1955. Sept. 1, The following persons to act as a Court for the purposes of the Canadian Citizenship Act in that part of Canada hereunder designated in each case: Police Magistrate L. H. Phinney, Territorial Court, Yellowknife, Northwest Territories; Inspector Rene John Belec, Officer Commanding Fort Smith Sub-Division, Royal Canadian Mounted Police, Fort Smith, Northwest Territories; Inspector William George Fraser, Officer Commanding Aklavik Sub-Division, Royal Canadian Mounted Police, Aklavik, Northwest Territories; Constable Charles Edward Boone, Royal Canadian Mounted Police Detachment, Chesterfield Inlet, Northwest Territories; Corporal Clarence James Dent, Royal Canadian Mounted Police Detachment, Baker Lake, Northwest Territories; Corporal Raymond Richard Johnson, Royal Canadian Mounted Police Detachment, Pond Inlet, Northwest Territories; Constable Roger Eugene Moore, Royal Canadian Mounted Police Detachment, Old Crow, Yukon Territory; R. A. J. Phillips and A. Stevenson, Officers in Charge of the Eastern Arctic Patrol, Department of Northern Affairs and National Resources; W. G. Kerr, Northern Service Officer, Churchill, Northwest Territories; A. J. Boxer, Northern Service Officer, Yellowknife, Northwest Territories; D. E. Wilkinson, Northern Service Officer, Frobisher Bay, Northwest Territories; R. D. Van Norman, Northern Service Officer, Frobisher Bay, Northwest Territories; and J. G. Walton, Northern Service Officer, Fort Chimo, Province of Quebec. 1956. Jan. 3, Constable Joseph Raymond Johnson, Royal Canadian Mounted Police Detachment, Pond Inlet, Northwest Territories.

Defence Research Board.—1955. Mar. 23, Prof. Louis-Paul Dugal, O.B.E., of Laval University, Quebec, and Prof. Henry George Thode, M.B.E., of McMaster University, Hamilton, Ont.: to be Members for a term of three years beginning Apr. 1, 1955. Sept. 29, Adam Hartley Zimmerman, Vice-Chairman: to be Chairman, *vice* Dr. Omond McKillop Solandt, resigned, effective Mar. 1, 1956. 1956. June 14, Herbert Hayman Lank and Dr. William James Archibald: to be Members for the period June 7, 1956 to Mar. 31, 1959.

Federal District Commission.—1956. Feb. 9, Edgar Baird: to be a Member *vice* Eric Cook, resigned, for the period ending Dec. 31, 1960.

Grain Commission.—1955. Apr. 29, Joseph Ingolph Hetland: to be Assistant Grain Commissioner for Saskatchewan, effective from Apr. 18, 1955.

Great Lakes Fishery Commission.—1955. Nov. 30, Andrew Lyle Pritchard, Director, Conservation and Development Service, Department of Fisheries, Ottawa, Ont.; William John Knox Harkness, Chief, Division of Fish and Wildlife, Department of Lands and Forests, Toronto, Ont.; and Arthur Owen Blackhurst, Mgr., Ontario Council of Commercial Fisheries, Port Dover, Ont.: to be Commissioners for Canada for a period of two years from Dec. 1, 1955.

Historical Sites and Monuments Board of Canada.—1955. May 5, Bruce C. Ferguson: to be a Member representing the Province of Nova Scotia for a period of five years from Apr. 13, 1955, *vice* T. H. Raddall, resigned. Oct. 26, Harry James William Walker and Edouard Fiset, M.R.A.I.C., S.A.D.C.F., M.I.P.T.P.: to be Members, representing the Provinces of Ontario and Quebec for a period of three and four years respectively.

International Commission for the Northwest Atlantic Fisheries.—1955. May 12, The following persons to be Commissioners: Stewart Bates, President, Central Mortgage and Housing Corporation; Louis S. Bradbury, Chairman, Newfoundland Fisheries Board, for the period Mar. 8, to June 30, 1955; J. Howard MacKichan, General Manager, United Maritime Fishermen, Limited, Halifax, N.S., for the period of two years from Mar. 8, 1955. June 30, George R. Clark, Deputy Minister of Fisheries: to be a Commissioner, effective July 1, 1955. 1956. Jan. 25, J. T. Cheeseman: to be a Commissioner for a term expiring June 30, 1957.

International North Pacific Fisheries Commission for Canada.—1955. Feb. 9, George Russel Clark, Deputy Minister of Fisheries, Ottawa: to be a Member, *vice* Stewart Bates, effective Feb. 1, 1955.

International Pacific Halibut Commission.—1955. Jan. 20, Samuel Vincent Ozere, Assistant Deputy Minister of Fisheries, Ottawa: to be one of the Canadian Members, *vice* George R. Clark, effective Jan. 10, 1955.

International Pacific Salmon Fisheries Commission.—1955. Feb. 9, H. R. MacMillan, Vancouver, B.C.: to be a Member for the period ending Dec. 31, 1955. 1956. Jan. 11, H. R. MacMillan: to be again a Member for the period ending Dec. 31, 1957.

International Whaling Commission.—1955. Mar. 1, Hon. James Sinclair, Minister of Fisheries: to be a Member, *vice* G. R. Clark. Hon. Mr. Justice W. F. Spence of the High Court of Justice for Ontario: to be Chairman. May 3, Alistair Fraser, Executive Assistant to the Minister of Fisheries: to represent the Government of Canada on the International Whaling Commission, *vice* Hon. James Sinclair.

Manitoba Northwest Territories Boundary Commission.—1955. July 7, R. Thistlethwaite, Surveyor General of Canada, and H. E. Beresford, Director of Surveys of the Department of Mines and Natural Resources of the Province of Manitoba: to be Members. R. Thistlethwaite: to be Chairman of the said Commission.

Maritime Marshland Rehabilitation Act.—1955. Nov. 3, Howard Trueman: to be a Member of the Advisory Committee established under the Act.

National Film Board.—1955. Nov. 9, Dr. Leon Lortie and Harry L. Roper: to be again Members for periods of three years commencing Nov. 14, 1955. Mrs. Winnifred Brown: to be a Member for a period of three years commencing Oct. 14, 1955.

National Harbours Board.—1955. Jan. 4, Bennett John Roberts, a Member: to be Chairman, effective Dec. 28, 1954. Mar. 30, Campbell H. Malcolm and Ernest J. Alton: to be Members, effective Apr. 1, 1955.

National Library Advisory Council.—1956. Mar. 29, The following persons to be Members for a further term expiring Dec. 31, 1959: Miss Elizabeth Dafoe, Rev. A. M. Morisset, and Hon. Thane A. Campbell.

National Research Council.—1955. Mar. 23, The following persons to be Members for a term of three years expiring Mar. 31, 1958: C. J. Mackenzie, C.M.G., M.C., D. Eng., D. Sc., LL.D., D.C.L., F.R.S.C., Ottawa, Ont.; T. Thorvaldson, M.A., Ph.D., D.Sc., LL.D., F.R.S.C., Dean of Graduate Studies Emeritus, University of Saskatchewan, Saskatoon, Sask.; W. H. Watson, M.A., Ph.D., F.R.S.C., Professor and Head of the Department of Physics, University of Toronto, Toronto, Ont.; R. S. Jane, B.A. Sc., M. Sc., Ph. D., Executive Vice-President, Shawinigan Chemicals, Ltd., 600 Dorchester St., W., Montreal, Que.; H. G. Thode, M.B.E., M.Sc., Ph.D., F.R.S.C., F.R.S., Principal, Hamilton College, and Director of Research, McMaster University, Hamilton, Ont.

1956. *Mar. 29*, The following persons to be Members for a term of three years from Apr. 1, 1956 to Mar. 31, 1959: R. F. Farquharson, M.B.E., M.B., F.R.C.P.(C), F.R.C.P., D.Sc. (Hon.), F.A.C.P., Head of the Department of Medicine, and The Sir John and Lady Eaton Professor of Medicine, University of Toronto, Toronto, Ont.; David L. Thomson, B.Sc., M.A., Ph.D., LL.D., F.R.S.C., F.C.I.C., Vice-Principal, McGill University, Montreal, Que.; J. H. L. Johnstone, O.B.E., M. Sc., Ph.D., Head of the Department of Physics and Dean of the Faculty of Graduate Studies, Dalhousie University, Halifax, N.S.; I. McTaggart Cowan, B.A., Ph.D., F.R.S.C., Professor and Head of the Department of Zoology, University of British Columbia, Vancouver, B.C.; R. B. Miller, M.A., Ph.D., Professor of Zoology, University of Alberta, Edmonton, Alta.; R. B. Sargent, M.B.E., M.A., Ph.D., F.R.S.C., McLaughlin Research Professor of Physics, and Head of the Department of Physics, Queen's University, Kingston, Ont.

New Westminster Harbour Commissioners.—1956. *May 10*, Thomas W. Christie: to be a Commissioner, *vice* William Gifford, resigned.

North Fraser Harbour Commissioners.—1955. *Nov. 3*, C. Cunningham and Ossie Freer: to be Commissioners, *vice* T. C. Brooke and S. N. Noble, respectively.

Northern Ontario Pipe Line Crown Corporation.—1956. *June 7*, D. A. Golden, Deputy Minister of Defence Production: to be President, and the following persons to be Directors, Herbert R. Balls, Director, Financial Administration and Accounting Policy Division, Department of Finance; Marc Boyer, Deputy Minister of Mines and Technical Surveys; Richard G. Johnson, President, Defence Construction (1951) Limited; Mitchell W. Sharp, Associate Deputy Minister of Trade and Commerce.

Northwest Territories Power Commission.—1955. *Mar. 23*, Thomas McMillan Patterson, Director of the Engineering and Water Resources Branch of the Department of Northern Affairs and National Resources: to be a Member, *vice* the late Norman Marr.

Northwest Territories.—1955. *Oct. 7*, Harold Edward Parkes: to be Clerk of the Territorial Court for the Yellowknife-Mackenzie Judicial District and Clerk of the Police Magistrate's Court, *vice* Frances Lillian Thomson, resigned, effective Oct. 1, 1955.

Port Alberni Harbour Commissioners.—1956. *May 3*, Hugh Keith Reid: to be a Commissioner as of Apr. 1, 1956, *vice* Thomas W. Christie, resigned.

Port Warden.—1955. *Feb. 9*, Captain Hugh Grant Murray: to be Port Warden of the Harbour of Montreal, *vice* Captain Robert Henry Monks, retired, effective Feb. 1, 1955.

Restrictive Trade Practices Commission.—1955. *Apr. 20*, Guy Roberge: to be a Member, *vice* Guy Favreau, Q.C., resigned, effective May 16, 1955.

Toronto Harbour Commissioners.—1955. *Nov. 16*, Frederick Douglas Tolchard: to be again a Commissioner for a further term of three years commencing Nov. 15, 1955. **1956.** *June 14*, W. A. Bennett: to be a Commissioner for a term of three years commencing Apr. 1, 1956, *vice* Dr. M. D. Kinsella.

Transport Controller.—1956. *Apr. 12*, Frank T. Rowan: to be a Deputy Transport Controller.

Unemployment Insurance Commission.—1955. *July 12*, Robert J. Tallon: to be again a Commissioner for a term commencing July 11, 1955 and terminating Dec. 31, 1955. *Dec. 14*, Gordon G. Cushing, Secretary-Treasurer of the Trades and Labour Congress of Canada: to be a Member of the Unemployment Insurance Advisory Committee, *vice* Percy R. Bengough, resigned.

Vocational Training Advisory Council.—1955. *Dec. 14*, The following persons to be Members or Alternate Members for a period expiring Dec. 1, 1958: T. H. Robinson, Manager, Industrial Relations Department, Canadian International Paper Co., representing employers (Member); Gilles H. Paquette, Manager, Industrial Relations Department, Imperial Tobacco Company of Canada Ltd., representing employers (Alternate for T. H. Robinson); William Leger, President, National Catholic Federation of Building Trades, representing employees (Member); Alderic Gosselin, Syndicate of Carpenters and Woodworkers of Montreal, representing employees (Alternate for William Leger); W. Elliott Wilson, Deputy Minister of Labour, Manitoba, representing the Province of Manitoba (Member); L. S. Smith, Department of Education, Manitoba, representing the Province of Manitoba (Alternate for W. Elliott Wilson); Gustave Poisson, Deputy Minister, Department of Youth and Social Welfare, Quebec, representing the Province of Quebec (Member); André Landry, Director General, Youth Training Plan, Department of Youth and Social Welfare, Quebec, representing the Province of Quebec (Alternate for Gustave Poisson); Dr. L. W. Shaw, Deputy Minister and Director of Education, Prince Edward Island, representing the Province of Prince Edward Island (Member); Edward D. MacPail, Director, Charlottetown Vocational School, representing the Province of Prince Edward Island (Alternate for Dr. L. W. Shaw); Mrs. A. Turner Bone, President, The National Council of Women for Canada, representing women (Member); Mrs. F. F. Worthington, Corresponding Secretary, The National Council of Women for Canada, representing women (Alternate for Mrs. A. Turner Bone). 1956. *Feb. 23*, L. M. Schram, Personnel Manager, International Business Machines Co., Limited, Toronto, Ont.: to be Alternate for W. H. C. Seeley, representative of employers, *vice* W. E. Weaver, resigned.

Miscellaneous.—1955. *Mar. 1*, W. N. Wickwire and Marcel Belanger: to be Commissioners under the Inquiries Act to inquire into and report upon all questions regarding Canada Shipping Act and Coasting Trade of Canada, arising out of the transportation by water, or by land and water. *Mar. 23*, Wilfrid Mayfield Cory, Legal Adviser, Department of Citizenship and Immigration: to act as a Court for all purposes under the Canadian Citizenship Act, effective Apr. 1, 1955. *Apr. 20*, Paul Fontaine, Q.C.: to act as a Court for all purposes under the Canadian Citizenship Act, effective Apr. 20, 1955. The following persons to be Assay Commissioners pursuant to Sect. 18 of the Currency, Mint and Exchange Fund Act: Dr. John Hart of the Division of Physics, and Mr. M. E. Bednas of the Division of Applied Chemistry, National Research Council, and Mr. W. R. Inman of the Mines Branch, Department of Mines and Technical Surveys. *May 13*, Wilfrid Mayfield Cory, a Presiding Officer of the Court of Canadian Citizenship, for the County of York in the Province of Ontario, Allen Joseph MacLeod, a Director of the Criminal Law Section of the Department of Justice, David Howard Woodhouse Henry, Director of the Advisory Section of the Department of Justice and John Donald Affleck, a Legal Adviser in the Department of Trade and Commerce: each to be one of Her Majesty's Counsel Learned-in-the-Law. *June 15*, Max Hirsch Wershof, Assistant Under-Secretary, Department of External Affairs, Ottawa: to be one of Her Majesty's Counsel Learned-in-the-Law. *June 16*, Hon. James Wilfred Estey, a Puisne Judge of the Supreme Court of Canada: to be Deputy Administrator of the Government of Canada. Hon. Charles Holland Locke, a Puisne Judge of the Supreme Court of Canada: to be Deputy Administrator of the Government of Canada. Joseph François Delaute: to be Deputy Administrator of the Government of Canada for the purpose of signing certain documents. *June 17*, Walter Lockhart Gordon, Omer Lussier, Albert Edward Grauer, Andrew Stewart and Raymond Gushue: to be Commissioners under Part I of the Inquiries Act to inquire into and report upon the long-

term prospects of the Canadian economy; the said Walter Lockhart Gordon to be Chairman of the Commission and Douglas V. LePan to be Secretary and Director of Research. *July 28*, J. D. McLeod, Chief, Water Resources Division, Department of Northern Affairs and National Resources: to represent Canada on the Lake Memphremagog Board and on the International St. Mary-Milk Rivers Board of Control, *vice* T. M. Patterson. J. E. Hickey and John J. Whelan: to be Members of the St. John's Harbour and Pilotage Commission, *vice* Captain M. G. Dalton, resigned, and Captain N. S. Halfyard, deceased. *Sept. 1*, His Honour William Loyola Whelan: to be Commissioner *per dedimus potestatem* to administer the Oath of Allegiance and other Oaths to the Administrator of the Government of the Province of Newfoundland for the period Sept. 1, to Sept. 30, 1955. *Sept. 16*, Corporal Edward Everett James and Corporal Alexander Romenco, employees of the Royal Canadian Mounted Police Crime Detection Laboratory at Regina, Sask.: to be duly qualified analysts for the purposes of the Opium and Narcotic Drug Act, effective Aug. 10, 1955. *Oct. 19*, Hon. John Babbitt McNair, Chief Justice of New Brunswick: to be during pleasure the Administrator of the Government of the Province of New Brunswick whenever the Lieutenant-Governor, Hon. D. L. MacLaren, is unable to execute his office and functions by reason of absence, illness or other inability. *Nov. 3*, John Forbes MacNeill, Q.C., Clerk of the Senate: to be a Commissioner to administer to persons called to the Senate of Canada as Members thereof, the Oath of Allegiance and also the Declaration of Qualification. George A. Rogers, an officer of the Department of Justice: to be a Commissioner to administer oaths and to take and receive affidavits, declarations and affirmations in Canada for the Supreme Court of Canada and for the Exchequer Court of Canada. *Nov. 16*, Capt. R. J. Randell: to be Harbour Master at St. John's, Nfld., effective Sept. 16, 1954, *vice* Captain N. S. Halfyard, deceased. *Dec. 2*, Robert MacLaren Fowler, Edmond Turcotte, Canadian Ambassador to Colombia, and James Stewart: to be Commissioners under Part I of the Inquiries Act to enquire into the subject of radio and television broadcasting in Canada, Mr. Robert MacLaren Fowler to be Chairman of the Commission. *Dec. 7*, Alan Lewis Brown, C.A.: to be an Assistant Commissioner of Penitentiaries, effective Dec. 15, 1955. **1956.** *Mar. 15*, Captain David Bennett Stampton, Examiner of Masters and Mates, Department of Transport: to be Harbour Master at St. John's, Nfld., *vice* Captain R. J. Randell. *Apr. 26*, Dr. T. M. Dauphinée, of the Division of Physics, Dr. R. D. Heyding, of the Division of Applied Chemistry, National Research Council, and W. R. Inman, of the Mines Branch, Department of Mines and Technical Surveys: to be Assay Commissioners to examine and test coins of the currency of Canada struck at the Royal Canadian Mint during the year 1955. *June 14*, H. B. McKinnon, Chairman of the Tariff Board, and J. C. Leslie, Secretary of the Tariff Board: to be Commissioners to administer oaths and to take and receive affidavits. Francis Seems: to be Inspector of Ships' Tackle at the Port of Dalhousie, N.B. Thomas W. Christie: to be a Member of the New Westminster Pilotage Authority for the period of one year, *vice* William Gifford, resigned.

Yukon Territory.—1955. *June 8*, Frederick Howard Collins: to be Commissioner, *vice* Wilfrid George Brown, effective June 15, 1955. *July 7*, Frank Gramani Smith, Barrister-at-Law: to be Registrar of the Yukon Land Registration District, *vice* Wilfrid George Brown. *Oct. 7*, Frank Herbert Murphy: to be Deputy Registrar of the Yukon Land Registration District.

PART IV.—FEDERAL LEGISLATION 1955

This classified list of federal legislation has been compiled from the Statutes. Naturally in summarizing material of this kind it is not always possible to convey the full implication of the legislation. The reader who is interested in any specific Act is therefore referred to the Statutes of Canada at the given volume and chapter.

**Legislation of the Second Session of the Twenty-Second Parliament,
Jan. 7 to July 28, 1955**

Subject, Chapter and Date of Assent	Synopsis
3-4 Elizabeth II	
Agriculture—	
9 Mar. 31	<i>An Act to amend the Canada Grain Act</i> provides for increased salaries for the Chief Commissioner, the Commissioners and Assistant Commissioners.
27 June 28	<i>The Canada Agricultural Products Standard Act</i> provides for the establishment of standards, grading and inspection of all agricultural products and for the regulation of international and interprovincial trade in such products.
36 June 28	<i>The Meat Inspection Act</i> which includes regulations respecting the inspection of meat and meat products entering international and interprovincial trade has been enacted mainly for sanitary and health purposes as opposed to quality, grade and standards.
39 June 28	<i>An Act to amend the Prairie Farm Rehabilitation Act</i> brings the Act into line with Ministerial authority to undertake projects involving an expenditure of up to \$15,000 as contained in the Financial Administration Act and Regulations.
56 July 28	<i>An Act to amend the Prairie Farm Assistance Act</i> amends the definition of cultivated land eligible for award to include land which could not be seeded or summerfallowed in the year of award owing to natural causes beyond the control of the farmer.
Constitution and Government—	
5 Mar. 24	<i>An Act to amend the Representation Act</i> changes the name of the electoral district of Northumberland in New Brunswick to Northumberland-Miramichi to distinguish it from Northumberland electoral district in Ontario.
12 Mar. 31	<i>An Act to amend the Members of Parliament Retiring Allowances Act</i> makes several minor changes in the legislation respecting withdrawal allowances.
16 May 4	<i>An Act to amend the Public Service Superannuation Act</i> makes a number of changes in definitions and in the sections on pensionable service, payments to widows and children, medical examination requirements, non-established Newfoundland civil servants, countable service in RCMP, etc.
17 May 4	<i>An Act to amend the Territorial Lands Act</i> permits the sale of Territorial land prior to surveying.
21 May 26	<i>An Act to amend the Northwest Territories Act</i> increases the sessional indemnity of elected members of the Northwest Territories Council.
23 May 26	<i>An Act to amend the Yukon Act</i> provides for increased sessional indemnity to members of the Yukon Council as well as for increased living and travelling expenses in connection with Council sittings.
24 June 28	<i>The Alberta-British Columbia Boundary Act, 1955</i> confirms part of the boundary line between the two provinces as surveyed and marked on the ground by commissions appointed for the purpose.
33 June 28	<i>An Act to amend the Government Employees Compensation Act</i> provides for coverage to persons in the Government service who are not paid a direct wage or salary and for coverage of persons locally engaged outside Canada. Under this amendment, compensation will be determined in accordance with the law of the province where the employee is usually employed rather than where the accident occurred. Additional benefits are provided where an employee dies as the result of an accident while absent on duty from his usual place of employment.
35 June 28	<i>An Act to amend the Library of Parliament Act</i> effects certain changes in the internal organization of the Library of Parliament.

**Legislation of the Second Session of the Twenty-Second Parliament,
Jan. 7 to July 28, 1955—continued**

Subject, Chapter and Date of Assent	Synopsis
Constitution and Government— concl.	
44 July 11	<i>An Act to amend the Canada Elections Act</i> includes many changes of technical, remedial and consequential nature, all of which are intended to improve the situation for the electors and the administrators. The Chief Electoral Officer is given the full status of a Deputy Minister plus a salary increase and the allotment for personal expenses of a candidate is increased from \$1,000 to \$2,000.
49 July 11	<i>An Act to amend the Municipal Grants Act</i> broadens the scope of grant payments to municipalities in lieu of taxes and increases the number of municipalities that may qualify for such grants. The grants will be calculated on the ratio of federal property to taxable property only instead of on the ratio of federal property to taxable and federal property combined, and will be calculated on the full real property tax rate rather than on 75 p.c. of that rate.
Defence and Veterans Affairs—	
13 Mar. 31	<i>An Act to amend the War Veterans Allowance Act, 1952</i> increases the monthly allowance under the Act and raises the limits of permissible income. Certain benefits are also extended to additional classes of persons.
28 June 28	<i>The Canadian Forces Act, 1955</i> contains amendments to the National Defence Act and the Defence Services Pension Act.
43 June 28	<i>An Act to amend the Veterans Benefit Act, 1954</i> terminates at July 1, 1955 the benefits of the Reinstatement in Civil Employment Act and the Unemployment Insurance Act which were made applicable to short term engagements resulting from the Korean emergency in 1950.
52 July 28	<i>An Act to amend the Defence Production Act</i> extends the life of Sects. 23 to 31 of the Act to July 31, 1959. The amendment also provides that regulations made under the Act must be laid before Parliament as soon as possible. If, within seven days, a notice of motion is given signed by ten members calling for revocation or amendment, that motion must be debated within the next four sitting days.
Finance—	
3 Mar. 24	<i>An Act to amend the Financial Administration Act</i> raises the salary of the Auditor General to \$20,000 per annum.
7 Mar. 31	<i>Appropriation Act No. 1, 1955</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1956.
8 Mar. 31	<i>Appropriation Act No. 2, 1955</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1956.
10 Mar. 31	<i>The Canada-Ireland Income Tax Agreement Act, 1955</i> implements an agreement between Canada and Ireland for the avoidance of double taxation with respect to income tax.
11 Mar. 31	<i>The Canada-Ireland Succession Duty Agreement Act, 1955</i> implements an agreement between Canada and Ireland for the avoidance of double taxation with respect to succession duty.
18 May 26	<i>Appropriation Act No. 3, 1955</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1956.
25 June 28	<i>Appropriation Act No. 4, 1955</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1956.
32 June 28	<i>An Act to amend the Customs Act</i> includes among other amendments a revision of sections of the Act relating to the valuation of goods for duty and places a limit on the period during which appeals against the original appraisal may be made.
51 July 28	<i>An Act to amend the Customs Tariff</i> gives effect to budget resolutions which affected about 80 tariff items. Many of these were amendments to remove uncertainties and administrative difficulties but there were also tariff reductions on a wide range of items.
53 July 28	<i>An Act to amend the Excise Tax Act</i> gives effect to Budget resolutions on the Excise Tax Act which, in particular, reduced the special excise tax on passenger automobiles from 15 p.c. to 10 p.c. and repealed the 10 p.c. special excise tax on tires and tubes.

**Legislation of the Second Session of the Twenty-Second Parliament,
Jan. 7 to July 28, 1955—continued**

Subject, Chapter and Date of Assent	Synopsis
Finance—concl.	
54 July 28	<i>An Act to amend the Income Tax Act</i> gives effect to the Budget resolutions on the Income Tax Act. The major tax changes included a reduction in the graduated rates of personal income tax ranging from 13.3 p.c. to 2.8 p.c., the reduction effective July 1, 1955. The tax rate on taxable incomes of corporations in excess of \$20,000 was also reduced from 47 p.c. to 45 p.c., effective Jan. 1, 1955.
55 July 28	<i>An Act to amend the Income Tax Act, the Railway Act and the Tariff Board Act</i> in respect of salaries of certain public officials provides for increased salaries for members of the Income Tax Appeal Board, the Board of Transport Commissioners and the Tariff Board.
60 July 28	<i>Appropriation Act No. 5, 1955</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1956.
Fisheries—	
34 June 28	<i>The Great Lakes Fisheries Convention Act</i> implements a Convention on Great Lakes Fisheries between Canada and the United States signed at Washington Sept. 10, 1954. A joint commission will study problems connected with the decline of some of the Great Lakes fisheries and formulate a program of conservation.
46 July 11	<i>The Fisheries Improvement Loans Act</i> guarantees bank loans to fishermen up to the amount of \$4,000 for the purpose of assisting in the purchase, construction and repair of specified capital items and improvements for use in the pursuit of their occupation.
Justice—	
2 Mar. 24	<i>An Act to amend the Criminal Code</i> places on the statute books the date (Apr. 1, 1955) of the coming into force of the new Code.
40 June 28	<i>An Act to amend the Prisons and Reformatories Act</i> revises the regulations relating to the confinement of boys under the age of sixteen convicted of imprisonable offences in New Brunswick.
45 July 11	<i>An Act to amend the Criminal Code</i> provides for a levy on each race track which will form a fund sufficient to ensure uniform and adequate supervision at all tracks regardless of size.
48 July 11	<i>An Act to amend the Judges Act, and the Judicature provinces of the Yukon Act and the Northwest Territories Act</i> provides increases in the salaries of judges of the Supreme Court of Canada, the Exchequer Court of Canada and the superior and county courts of the provinces. The amendment also provides for the appointment of a judge of the Northwest Territories.
Labour—	
1 Jan. 13	<i>An Act to amend the Unemployment Insurance Act</i> increases the rates of supplementary benefit which will, from Jan. 1, 1955, be paid to certain classes of persons for the period Jan. 1 to Apr. 15 in any year.
50 July 11	<i>The Unemployment Insurance Act</i> constitutes the first general revision of the Act since its institution in 1941. It increases benefit rates and provides for certain changes in the duration of both regular and seasonal benefits. Contributions are adjusted and are changed from a daily to a weekly earning basis and benefits from a daily to a weekly basis. Enforcement and administrative provisions are also amended.
Trade and Commerce—	
14 May 4	<i>The Exportation of Power and Fluids and Importation of Gas Act</i> revises and consolidates the Electricity and Fluid Exportation Act. Licences are now required for the importation of gas as well as for the exportation of power and fluids. The Act also provides for the imposition of export duties on power exported from Canada. Authority is no longer granted for the imposition of duties on exports of gas, oil and other fluids.
22 May 26	<i>An Act to amend the Precious Metals Marking Act</i> relates to the method of applying quality mark to certain plated articles and to the registration of trade marks.
Transportation and Communications—	
4 Mar. 24	<i>An Act to amend the National Harbours Board Act</i> increases the membership of the Board from three to four.
6 Mar. 24	<i>An Act to amend the Winnipeg and St. Boniface Harbour Commissioners Act</i> relates to the election of a chairman and the constitution of a quorum.

**Legislation of the Second Session of the Twenty-Second Parliament,
Jan. 7 to July 28, 1955—concluded**

Subject, Chapter and Date of Assent	Synopsis
Transportation and Communications —concl.	
15 May 4	<i>The Foreign Aircraft Third Party Damage Act</i> implements the Convention agreed upon by the International Civil Aviation Organization designed to ensure adequate compensation for persons who suffer damage caused on the surface by foreign aircraft, while limiting in a reasonable manner the extent of the liabilities incurred for such damage in order not to hinder the development of international civil air transport.
29 June 28	<i>The Canadian National Railways Act</i> consolidates under one statute the various enactments relating to the organization, administration and financing of the Canadian National Railways.
30 June 28	<i>The Canadian National Railways Financing and Guarantee Act, 1955</i> authorizes the provision of moneys to meet certain capital expenditures of the Canadian National Railways System during 1955 and authorizes the guarantee of certain securities to be issued by the Company.
31 June 28	<i>The Canadian National Railways Refunding Act, 1955</i> provides for the refunding of matured, maturing and callable financial obligations.
38 June 28	<i>The New Westminster Harbour Commissioners Loan Act, 1955</i> provides financial assistance for the construction of a causeway and trestle-bridge to give access to Annacis Island in New Westminster harbour.
41 June 28	<i>An Act to amend the Railway Act</i> raises from \$1,000,000 to \$5,000,000 the annual federal appropriation placed to the credit of the Railway Grade Crossing Fund to be used for construction work for the protection, safety and convenience of the public in respect of level crossings. The amendment also includes certain changes in connection with the administration of the fund.
42 June 28	<i>An Act to approve an agreement between The Toronto Harbour Commissioners, The Toronto Terminals Railway Company, Canadian National Railway Company and Canadian Pacific Railway Company</i> concerns the ownership of certain railway facilities on Harbour Commission property.
47 July 11	<i>The International River Improvements Act</i> requires the procuring of a licence for the construction, operation or maintenance of any international river improvement, such as a dam, obstruction, canal, reservoir or any other work that will alter the natural flow or interfere with the actual or potential use of such international river outside Canada. This Act, except in specified instances, applies to the Government of Canada, to the Government of any province and to any private individual.
57 July 28	<i>An Act to amend the Radio Act</i> places under government control and inspection the construction of radio station antennae and imposes a penalty for unlawful interception of radio communications.
58 July 28	<i>An Act to amend the St. Lawrence Seaway Authority Act</i> gives to the St. Lawrence Seaway Authority the power to expropriate lands on Indian reserves as well as other lands.
59 July 28	<i>An Act to amend the Transport Act</i> implements the Report of the Royal Commission established to enquire into the application and effects of agreed freight rates as authorized by the Board of Transport Commissioners.
Miscellaneous—	
19 May 26	<i>An Act to amend the Emergency Gold Mining Assistance Act</i> extends the application of the Act to the years 1955 and 1956.
20 May 26	<i>An Act to amend the Historic Sites and Monuments Act</i> amplifies the definition of "historic place" and changes slightly the representation on the Board as well as the method and amount of payment to Board members.
26 June 28	<i>An Act to amend the Blind Persons Act</i> lowers the age for eligibility to 18 years and increases the allowance.
37 June 28	<i>An Act to amend the National Parks Act and to establish a National Park in the Province of Newfoundland</i> provides for the withdrawal of certain lands from Waterton Lakes and National Park so that they might be turned over to the Blood Indians in exchange for rights-of-way, for the withdrawal of an island from the St. Lawrence Islands National Park, and for the establishment of a National Park in Newfoundland.

PART V.—CANADIAN CHRONOLOGY

Events in the general chronology from 1497 to 1866 are given in the 1951 Year Book, pp. 46-49, from 1867 to 1953 in the 1954 Year Book, pp. 1259-1264 and for 1954 in the 1955 edition, pp. 1329-1330. References regarding federal and provincial elections or changes in legislatures or ministries are given in Chapter II on Constitution and Government and in the Appendix.

1955. *Jan. 7*, Opening of Federal Parliament ceremonies (2nd session of 22nd Parliament) televised for the first time. *Jan. 24*, Plan announced for construction of the first Canadian atomic power plant near Des Joachims, Ont. *Jan. 24-27*, His Excellency Mohammed Ali, Prime Minister of Pakistan, made official visit to Ottawa. *Jan. 26*, House of Commons approved Protocol to the North Atlantic Treaty providing for the admission to NATO of the Federal Republic of Germany (signed on behalf of Canada at Paris, Oct. 23, 1954). *Jan. 31*, Motor vehicle factory and parts depot workers at Windsor, Oakville and Etobicoke, Ont., resumed work after a 109 day strike—163,000 man-days lost. *Jan. 31-Feb. 8*, Conference of Commonwealth Prime Ministers held at London, England; Canada's Prime Minister presented with the symbol of the freedom of London, a rare honour. *Feb. 9-10*, His Excellency General Paul Eugene Magloire, President of Haiti, visited Ottawa. *Mar. 21*, Fire destroys 35 buildings at Nicolet, Que.—damage \$700,000. *Mar. 22*, Malton airport suffers \$5,000,000 fire in violent storm. *Mar. 25-27*, His Excellency Mario Scelba, Prime Minister of Italy, visited Ottawa. *Apr. 2*, Angus L. Macdonald Bridge linking Halifax and Dartmouth officially opened. *Apr. 8-May 14*, Rt. Hon. C. D. Howe, Minister of Trade and Commerce, made goodwill tour of Australia and New Zealand. *Apr. 12*, Deputy Minister of National Health and Welfare attended the meeting at Ann Harbour, Michigan, at which the results of the Salk vaccine trials were announced and the release of Canada's stock of vaccine started immediately. *Apr. 26-27*, Federal-Provincial Conference held at Ottawa at which the main topic of discussion was unemployment relief. *May 5*, Allied High Commission of Great Britain, the United States and France proclaimed an end to the ten year occupation of West Germany. *May 9*, Unity committee approved merger of the Trades and Labour Congress of Canada and the Canadian Congress of Labour, later confirmed at their respective conventions, as the Canadian Labour Congress. *May 9-11*, NATO Council met in Paris; Federal Republic of Germany formally admitted to Organization. Hon. L. B. Pearson, Minister of External Affairs, represented Canada. *May 15*, Austria's freedom from occupation granted by a treaty signed by the foreign ministers of Russia, Great Britain, the United States and France. *May 24*, CPR and CNR started faster Montreal-Vancouver schedules, cutting 14 to 16 hours from run. *May 30-June 10*, Eighth and last annual International Trade Fair to be sponsored by the Federal Government held at Toronto. *June 3-4*, CP Air Lines inaugurated first polar air service, Vancouver to Amsterdam. *June 5-11*, International Commission for the Northwest Atlantic Fisheries held at Ottawa. *June 22*, Laying of first trans-Atlantic telephone cable started at Clarendville, Nfld. *June 25*, Tenth anniversary of the United Nations observed at Ottawa by ceremonies on Parliament Hill. *June 28*, Canadian Supreme Court rejected challenge to legality

of Federal Labour Code by Ontario, Quebec and Alberta Governments. *July 1*, Centennial celebrations opened at London, Ont. *July 2*, Charlottetown, P.E.I. marked centennial. *July 11*, End of Parliamentary debate with agreement to three year limit on emergency powers under the Defence Production Act. *July 18-22*, NATO conference in Paris; Senator W. McL. Robertson represented Canada. *July 18-23*, Summit Conference at Geneva; heads of Government of United Kingdom, United States, Russia and France planned for European security. *Aug. 1*, Canada-Russia parcel post resumed. *Aug. 3*, International conference on the peaceful uses of atomic energy opened at Geneva; W. J. Bennett, President, Atomic Energy of Canada Limited, headed Canadian delegation. *Aug. 13*, Canso Causeway linking Cape Breton Island with the mainland officially opened. *Aug. 15*, Acadians mark expulsion bicentennial at Grand Pré, N.S. *Aug. 20*, Governor General Massey opened world Scout Jamboree at Niagara-on-the-Lake, Ont. *Aug. 22-25*, Mr. Garfield Todd, Prime Minister of Southern Rhodesia, visited Ottawa. *Aug. 25-Sept. 10*, U.S.S.R. agricultural experts toured Canada's farming areas. *Aug. 29*, UN conference on disarmament opened at New York; Hon. Paul Martin, Minister of National Health and Welfare, represented Canada. *Sept. 1*, Golden Jubilee of the formation of Provinces of Saskatchewan and Alberta; celebrations took place throughout the year. *Sept. 20*, Tenth session of the General Assembly of the UN opened at New York; Hon. Paul Martin, Minister of National Health and Welfare, chairman of the Canadian delegation. *Sept. 26*, Joint United States-Canadian Committee on Trade and Economic Affairs met at Ottawa. *Sept. 30*, "Operation Franklin", geological survey of Canada's Arctic islands, completed. HRH. Princess Mary arrived on her first tour of Canada. Hon. L. B. Pearson, Minister of External Affairs, left on official tour of twelve countries including Russia, Singapore and other places in the Far East. *Oct. 3-6*, Federal-Provincial Conference on fiscal matters held at Ottawa. *Oct. 5*, Government announced plans for construction of a large power plant in Pakistan under Colombo Plan. *Oct. 29*, HMCS *St. Laurent*, first of a series of 14 new "nuclear age" destroyer escorts, commissioned at Montreal. *Nov. 1*, Hon. L. B. Pearson officially opened the "Canada Dam" in West Bengal, India, a project to which Canada contributed the major part. *Nov. 14*, End of four month strike involving 2,000 employees of the deHavilland Aircraft plant, Toronto—168,000 man-days lost. *Nov. 12*, Riverside landslide at Nicolet, Que.—damage \$5,000,000. *Nov. 15*, Supreme Court of Canada ruled 1953 Saskatchewan Moratorium Act *ultra vires*. *Nov. 16*, Big Four foreign ministers' conference ended without agreement. *Nov. 21*, Federal and Ontario Governments agreed to build northern Ontario section of trans-Canada gas pipeline. *Dec. 14*, Sixteen new nations admitted to membership in UN after Outer Mongolia and Japan were deleted from Canada-sponsored 18-nation bloc proposal. *Dec. 15-16*, NATO Council meeting at Paris

approved building air-warning screen across Europe; Hon. L. B. Pearson leader of Canadian delegation.

1956. *Jan. 10*, Opening of 3rd Session of 22nd Parliament. *Jan. 11*, Mrs. Ann Shipley first woman in Canadian Parliamentary history to move the Address in Reply to the Speech from the Throne. *Feb. 3-8*, Rt. Hon. Sir Anthony Eden, Prime Minister of the United Kingdom addressed joint session of the Senate and House of Commons during official visit to Ottawa. *Feb. 3*, Merger of the Imperial Bank of Canada and Barclays Bank (Canada) as the Imperial Bank of Canada formally approved by the Federal Government. *Feb. 14*, End of 148 day strike involving 17,000

General Motors employees, the costliest strike in Canadian history. *Mar. 4*, President Giovanni Gronchi of Italy addressed joint session of the Senate and House of Commons during official visit to Ottawa. *Mar. 9*, Federal-Provincial tax conference opened at Ottawa; no agreement reached. *Mar. 20-Apr. 5*, Governor General Massey undertook 10,000 mile tour through Canada's Far North. *Mar. 23*, Pakistan formally became the Islamic Republic of Pakistan. *Mar. 26-27*, Rt. Hon. Louis S. St. Laurent, Prime Minister of Canada, Dwight D. Eisenhower, President of the United States, and Adolfo Ruiz Cortines, President of Mexico, met at White Sulphur Springs, Va., to discuss matters of common interest.

PART VI.—STATISTICAL SUMMARY OF THE PROGRESS OF CANADA 1871-1954

Newfoundland entered Confederation in 1949 and figures for that Province have since been included with Canadian statistics as they have become available. Under each item in the following Summary, the inclusion of Newfoundland data for the first time is indicated by a black dot (•). If no dot is shown on any of the years from 1951-54 for a particular item, Newfoundland is excluded throughout. In some instances the symbol does not apply. Revisions of figures published in previous editions of the Year Book are not indicated in this Summary.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA

NOTE.—The interpretation of the symbols used in the table will be found facing p. 1 of this volume.

	Item	1871	1881	1891	1901	1911	1921
Population—¹							
1	Newfoundland..... No.	...	...	...	...	...	...
2	Prince Edward Island..... "	94,021	108,891	109,078	103,259	93,728	88,615
3	Nova Scotia..... "	387,800	440,572	450,396	459,574	492,338	523,837
4	New Brunswick..... "	285,594	321,233	321,263	331,120	351,889	387,876
5	Quebec..... "	1,191,516	1,359,027	1,488,535	1,648,898	2,005,776	2,360,510
6	Ontario..... "	1,620,851	1,926,922	2,114,321	2,182,947	2,527,292	2,933,662
7	Manitoba..... "	25,228	62,260	152,506	255,211	461,394	610,118
8	Saskatchewan..... "	..	..	..	91,279	492,432	757,510
9	Alberta..... "	..	..	..	73,022	374,295	588,454
10	British Columbia..... "	36,247	49,459	98,173	178,657	392,480	524,582
11	Yukon Territory..... "	..	..	..	27,219	8,512	4,157
12	Northwest Territories..... "	48,000	56,446	98,967	20,129	6,507	8,143
	Canada..... "	3,689,257	4,324,810	4,833,239	5,371,315	7,206,643	8,787,949 ²
Households (excl. Territories)... No.							
13	Households (excl. Territories)... No.	..	800,410	900,080	1,058,386	1,482,980	1,897,110
Immigration—							
14	From United Kingdom..... No.	..	17,033	22,042	11,810 ⁴	144,076	43,772
15	From United States..... "	..	21,822	52,516	17,987 ⁴	112,028	23,888
16	From other countries..... "	..	9,136	7,607	19,352 ⁴	75,184	24,068
	Totals..... "	27,773	47,991	82,165	49,149 ⁴	331,288	91,728
Vital Statistics (excl. Territories)—							
17	Births (live) ⁵ No.	..	..	..	..	..	..
	Rates per 1,000 population.....	..	..	..	..	..	..
18	Deaths, all causes ⁵ No.	..	..	..	..	..	..
	Rates per 1,000 population.....	..	..	..	..	..	..
19	Marriages..... No.	..	..	..	..	..	..
	Rates per 1,000 population.....	..	..	..	..	..	..
20	Divorces..... No.	4	7	10	19	57	558
Health and Welfare—							
HOSPITALS—⁶							
Public Hospitals—							
21	Hospitals..... No.	..	..	..	..	..	..
22	Bed capacity ⁷..... "	..	..	..	..	..	..
23	Patient days ⁸..... "	..	..	..	..	..	..
24	Expenditure ⁹..... \$	..	..	..	..	..	..
Tuberculosis Sanatoria—							
25	Sanatoria..... No.	..	..	..	..	..	..
26	Bed capacity..... "	..	..	..	..	..	..
27	Patient days..... "	..	..	..	..	..	..
28	Expenditure ⁹..... \$	..	..	..	..	..	..
Mental Institutions—							
29	Hospitals..... No.	..	..	..	..	..	..
30	Bed capacity..... "	..	..	..	..	..	..
31	Patient days..... "	..	..	..	..	..	..
32	Expenditure ⁹..... \$	..	..	..	..	..	..
33	FAMILY ALLOWANCES ⁴..... \$	..	..	..	..	..	..
34	OLD AGE PENSIONS ⁴..... \$	..	..	..	..	..	..
35	PENSIONS FOR THE BLIND ¹⁰..... \$	..	..	..	..	..	..
36	UNEMPLOYMENT INSURANCE ^{4,12}..... \$	..	..	..	..	..	..
Criminal Statistics—¹³							
37	Convictions, indictable offences. No.	..	3,509 ¹⁴	3,974	5,638	12,627	19,396
38	Convictions, non - indictable offences..... "	..	30,365 ¹⁴	33,643	36,510	100,633	157,777

¹ At every census the previous post-censal estimates made at June 1 each year are adjusted to the newly recorded population figures.² Includes 485 members of the Royal Canadian Navy recorded separately.³ Inter-censal estimate—excludes households in institutions.⁴ Year ended Mar. 31.⁵ By place of occurrence prior to 1941; by place of residence from 1941.⁶ For reporting hospitals only; private and federal hospitals excluded.⁷ Bassinets for newborn excluded.⁸ Days' stay of newborn excluded.⁹ Not

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

NOTE.—The interpretation of the symbols used in the table will be found facing p. 1 of this volume.

1931	1939	1941	1951	1952	1953	1954	
...	...	...	361,416	374,000	383,000	398,000	1
88,038	94,000	95,047	98,429	103,000	106,000	105,000	2
512,846	561,000	577,962	642,584	653,000	663,000	673,000	3
408,219	447,000	457,401	515,697	526,000	536,000	547,000	4
2,874,662	3,230,000	3,331,882	4,055,681	4,174,000	4,269,000	4,388,000	5
3,431,683	3,708,000	3,787,655	4,597,542	4,766,000	4,897,000	5,046,000	6
700,139	726,000	729,744	776,541	798,000	809,000	828,000	7
921,785	906,000	895,992	831,728	843,000	861,000	878,000	8
731,605	786,000	796,169	939,501	970,000	1,002,000	1,039,000	9
694,263	792,000	817,861	1,165,210	1,198,000	1,230,000	1,266,000	10
4,230	5,000	4,914	9,096	9,000	9,000	10,000	11
9,316	12,000	12,028	16,004	16,000	16,000	17,000	12
10,376,786	11,267,000	11,506,655	14,009,429 ●	14,430,000	14,781,000	15,195,000	
2,275,171	..	2,706,089	3,420,822 ●	3,561,000 ^s	3,675,000 ^s	3,785,000 ^s	13
7,678	3,011	435	31,559	45,060	46,574	43,120	14
15,195	5,654	6,594	7,755	9,333	9,407	10,131	15
4,657	8,329	2,300	155,077	110,105	112,887	100,976	16
27,530	16,994	9,329	194,391	164,498	168,868	154,227	
240,473	229,468	255,317	380,101 ●	402,527	416,825	435,142	17
23-2	20-4	22-2	27-2 ●	27-9	28-2	28-7	
104,517	108,951	114,639	125,454 ●	125,950	127,381	124,520	18
10-1	9-7	10-0	9-0 ●	8-7	8-6	8-2	
66,591	103,658	121,842	128,230 ●	128,301	130,837	128,385	19
6-4	9-2	10-6	9-2 ●	8-9	8-9	8-5	
700	2,068	2,461	5,263 ●	5,634	6,055	5,922	20
587	606	610	778	777	810 ●	817	21
43,247	51,488	53,305	68,674	68,033	70,223 ●	75,478	22
9,657,517	11,923,695	13,393,506	19,798,448	20,186,043	23,075,013 ●	24,278,433	23
38,309,400	..	..	196,203,373	204,041,224	235,512,500 ●	273,604,227	24
31	39	39	59 ●	59	60	56	25
6,044	8,375	8,655	13,502 ●	13,778	15,150	13,942	26
1,924,289	3,055,910	3,227,640	4,640,217 ●	4,808,365	5,160,391	4,674,914	27
5,329,393	6,882,443	7,753,229	26,815,147 ●	29,183,919	30,882,973	31,165,027	28
52	53	54	63 ●	66	69	73	29
29,283	38,276	38,800	44,205 ●	46,417	49,290	51,986	30
10,662,343	15,478,080	16,078,250	19,708,905 ●	20,540,200	21,534,703	22,243,176	31
13,235,767	15,449,122	14,725,760	46,403,522 ●	51,651,055	57,229,007	64,086,874	32
..	..	..	309,465,461 ●	320,467,673	334,197,685	350,113,902	33
7,050,924	28,885,860	28,472,475	99,268,006 ●	76,066,835 ^u	323,141,614	338,970,791	34
..	859,853	1,067,239	3,901,109 ●	721,449 ^u	2,985,217	2,914,101	35
..	..	..	88,273,000 ●	90,154,000	135,822,000	186,852,000	36
31,542	48,107	42,646	40,289 ●	41,591	45,071	47,981	37
327,778	428,608	547,556	1,308,466 ●	1,565,707	1,763,622	1,977,567	38

all hospitals shown above furnished financial reports.
ended Mar. 31, 1952, under new federal program.¹⁰ Federal contribution only.¹¹ Three months¹² Includes seasonal benefit payments from 1950.
¹³ Years ended Sept. 30 prior to 1950; 1950 and subsequently, years ended Dec. 31.¹⁴ 1886 figures; first year available.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

Item		1871	1881	1891	1901	1911	1921
Education—							
1	Total enrolment, all types.... No.	803,000	891,000	993,000	1,092,633	1,361,205	1,880,805
2	Average daily attendance..... "				669,000	870,532	1,349,256
3	Teachers!..... "	13,559	18,016	23,718	27,126	40,516	56,607
4	Public expenditure on..... \$	..	..	..	11,044,925	37,971,374	112,976,543
Survey of Production—							
5	Net value..... \$	..	..	..	..	..	..
Agriculture—							
6	Area of occupied farms..... acre	36,046,401	45,358,141	58,997,995	63,422,338	108,968,715	140,887,903
7	Improved lands..... "	17,335,818	21,899,181	27,729,852	30,166,033	48,733,823	70,769,548
8	Cash income from the sale of farm products..... \$'000	..	..	..	..	..	..
FIELD CROPS—⁴							
9	Wheat..... bu.	16,723,873	32,350,269	42,144,779	55,572,368	132,077,547	226,508,411
	\$	16,993,265	38,820,323	31,667,529	36,122,039	104,816,825	374,178,601
10	Oats..... bu.	42,489,453	70,493,131	83,428,202	151,497,407	245,393,425	364,989,218
	\$	15,966,310	23,967,665	31,702,717	51,509,118	89,796,130	180,989,587
11	Barley..... bu.	11,496,038	16,844,868	17,222,795	22,224,366	28,848,310	42,956,049
	\$	8,170,735	11,791,408	8,611,397	8,889,746	14,653,697	33,514,070
12	Corn..... bu.	3,802,830	9,025,142	10,711,380	25,875,919	14,417,699	10,822,278
	\$	2,283,145	5,415,085	5,034,343	11,902,923	5,774,039	7,081,140
13	Potatoes..... bu.	47,330,187	55,368,790	53,490,857	55,362,635	55,461,473	62,230,052
	\$	15,211,774	13,288,510	21,396,342	13,840,658	27,426,765	44,635,547
14	Hay and clover..... ton	3,818,641	5,055,810	7,693,733	6,943,715	10,408,367	8,829,915
	\$	38,869,900	40,446,480	69,243,597	85,625,315	90,115,531	174,110,386
	Total Areas, Field Crops ⁶ ... acre	..	..	15,662,811	19,763,740	30,556,168	47,553,418
	Total Values, Field Crops ⁶ ... \$	111,116,606	155,277,427	194,766,934	237,682,285	384,513,795	933,045,936
LIVE STOCK AND POULTRY—⁷							
15	Horses..... No.	836,700	1,059,400	1,470,600	1,577,500	2,599,000	3,451,800
	\$	..	..	..	118,279,000	381,916,000	414,808,000
16	Milk cows..... No.	1,251,200	1,595,800	1,857,100	2,408,700	2,645,200	3,086,700
	\$	..	..	..	69,238,000	111,833,000	188,518,000
17	Other cattle..... No.	1,373,100	1,919,200	2,263,500	3,167,800	3,880,900	5,282,800
	\$	..	..	..	54,197,000	84,021,000	146,567,000
18	Sheep..... No.	3,155,500	3,048,700	2,563,800	2,510,200	2,174,300	3,200,500
	\$	..	..	..	10,491,000	10,702,000	20,675,000
19	Swine..... No.	1,366,100	1,207,600	1,733,900	2,363,800	3,634,800	3,324,300
	\$	..	..	..	16,446,000	26,987,000	35,869,000
20	All poultry..... No.	..	..	14,105,100	17,922,700	31,793,300	37,185,800
	\$	..	..	..	5,724,000	14,654,000	38,015,000
	Total Values..... \$	..	..	..	274,375,000	630,113,000	844,452,000
DAIRYING—⁸							
21	Total milk production..... '000 lb.	..	..	..	6,866,834	9,806,741	11,897,545
22	Cheese, factory ⁹ lb.	..	54,574,856	97,418,855	220,833,269	199,904,205	162,117,000
	\$	..	5,457,486	9,741,886	22,221,430	21,587,124	28,710,000
23	Butter, creamery..... lb.	..	1,365,912	3,654,364	36,066,739	64,489,398	128,745,000
	\$	..	341,478	913,591	7,240,972	15,597,807	48,135,000
24	Butter, dairy..... lb.	..	102,545,169	111,577,210	105,343,076	137,110,200	107,379,000
	\$	..	..	..	21,384,644	30,269,497	35,307,000
25	Other dairy products ¹⁰..... \$	..	..	..	15,623,907	35,927,426	110,623,000
	Total Values, Dairy Products \$	..	22,743,939	30,315,214	66,470,953	103,381,854	222,775,000
Forestry—							
26	Primary forest production..... \$	..	..	..	..	..	168,054,024
27	Lumber production..... M ft. b.m.	..	..	..	..	4,918,202	2,869,307
	\$	..	..	..	..	75,830,954	82,448,585
28	Total sawmill products..... \$	..	..	..	..	..	116,891,191
29	Pulp and paper products..... \$	..	..	..	..	..	151,003,165
30	Exports of wood, wood products and paper ¹¹..... \$	..	..	25,351,085	33,099,915	56,334,695	284,561,478

¹ Provincially controlled ordinary and technical day schools.² Estimated.³ Includes the Yukon and Northwest Territories.⁴ Figures for the decennial census years 1871-1921 are for the immediately preceding years; those for 1871 are for the four original provinces only.⁵ Cwt.⁶ Includes other field crops, e.g., rye and flaxseed, not specified.⁷ On farms only.⁸ Figures for the decennial census years

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

1931	1939	1941	1951	1952	1953	1954	
2,264,106	2,236,342	2,131,391	2,922,931●	3,047,605	3,182,226	3,349,430P	1
1,801,955	1,870,563	1,802,300	2,117,457●	2,223,005	2,378,953	2,507,067	2
71,246	74,549	75,308	90,403●	93,694	98,091	102,031	3
144,748,823	122,974,590	129,817,268	513,442,000●	581,022,000	619,000,000	660,000,000 ²	4
..	3,186,572,182	4,565,666,059	13,074,797,179●	13,727,850,756	14,537,892,496	..	5
163,114,034	..	173,563,282	174,046,654 ³●	..	..	..	6
85,732,172	..	91,636,065	96,852,826 ³●	..	..	..	7
476,101	716,062	885,257	2,816,461	2,849,310	2,775,795	2,395,321	8
312,325,000	..	314,825,000	552,657,000	687,922,000	613,962,000	308,909,000	9
123,550,000	..	192,747,000	855,137,000	1,090,512,000	817,769,000	349,570,000	
328,278,000	..	305,575,000	488,191,000	466,805,000	406,000,000	306,793,000	10
77,970,000	..	125,920,000	369,296,000	309,477,000	253,000,000	206,432,000	
67,382,600	..	110,566,000	245,218,000	291,379,000	262,065,000	175,509,000	11
17,465,000	..	47,651,000	269,951,000	307,749,000	224,580,000	155,577,000	
5,449,000	..	13,362,000	15,915,000	19,722,000	20,854,000	22,339,000	12
2,274,000	..	9,645,000	28,627,000	28,403,000	28,199,000	32,245,000	
52,305,000 ⁴	..	39,052,000 ⁴	48,355,000	60,071,000	67,000,000	51,788,000	13
22,359,000	..	48,274,000	98,077,000	100,784,000	52,000,000	75,028,000	
14,539,600	..	12,632,000	19,484,000	19,083,000	19,650,000	19,549,000	14
110,110,000	..	158,723,000	297,238,000	271,687,000	269,489,000	273,436,000	
58,862,305	..	56,788,400	60,868,000	61,745,000	60,610,000	58,617,000	
435,966,400	..	704,761,000	2,120,301,000	2,306,397,000	1,806,346,000	1,242,829,000	
3,113,900	..	2,788,795	1,303,800	1,180,400	1,096,200	993,300	15
205,087,000	..	184,549,656	94,130,000	94,998,000	87,565,000	78,389,000	
3,371,900	..	3,626,025	2,903,800	2,968,000	3,146,200	3,233,000	16
160,555,000	..	191,214,008	722,589,000	624,160,000	531,043,000	466,056,000	
4,601,100	..	4,890,982	5,459,300	6,204,700	6,616,000	6,721,000	17
94,952,000	..	138,196,159	871,003,000	802,284,000	686,137,000	585,343,000	
3,627,100	..	2,839,948	1,461,200	1,588,200	1,655,300	1,716,400	18
19,680,000	..	17,038,647	38,439,000	35,314,000	32,611,000	30,570,000	
4,699,800	..	6,081,389	4,914,300	5,741,000	4,447,000	5,141,000	19
33,288,000	..	54,911,751	185,773,000	152,894,000	137,246,000	187,388,000	
65,468,000	..	63,526,202	67,857,000	65,782,000	66,451,000	71,830,000	20
45,138,000	..	27,444,115	86,943,000	80,932,000	82,764,000	79,997,000	
558,800,000	..	613,354,336	1,998,877,000	1,790,582,000	1,557,366,000	1,427,743,000	
14,339,686	..	16,068,037	15,309,971	15,734,603	16,448,679	16,902,148	21
113,956,639	..	152,790,000	94,314,000	73,668,000	83,219,000	92,587,000	22
12,824,695	..	26,107,000	33,527,000	22,782,000	26,968,000	30,824,000	
225,955,246	..	285,848,000	257,165,000	280,746,000	302,783,000	313,230,000	23
50,198,878	..	93,198,000	162,154,000	167,459,000	179,088,000	182,943,000	
98,590,000	..	75,483,000	26,830,000	23,769,000	21,169,000	19,487,000	24
20,098,000	..	22,221,000	16,159,000	13,924,000	12,321,000	11,182,000	
109,262,600	..	158,267,000	403,052,000	430,326,000	438,871,000	449,268,000	25
192,384,173	..	299,793,000	614,892,000	634,491,000	657,248,000	674,217,000	
141,123,930	157,747,398	213,163,089	782,525,015●	815,651,194	783,546,958	..	26
2,497,553	3,976,882	4,641,084	6,948,697●	6,807,594	7,305,958	7,243,855	27
45,977,843	78,331,839	129,287,703	507,650,241●	483,185,323	494,385,993	482,912,005	
62,769,253	100,132,597	163,412,292	591,551,749●	568,023,148	590,693,704	572,186,498	28
174,733,954	208,152,295	334,726,175	1,237,897,470●	1,157,887,657	1,179,665,443	1,241,558,451	29
185,493,491	242,541,043	387,113,232	1,399,076,131●	1,366,787,043	1,295,395,860	1,378,354,376	30

1881-1921 are for the immediately preceding years. In the Censuses of 1881 and 1891 values only were given of factory butter and cheese; quantities are estimated.

¹ Data shown for 1941-54 represent cheddar and other cheese made from whole milk; prior to 1941 the figures included other cheese for Quebec only.

item does not include skim milk and buttermilk

¹¹ Years ended Mar. 31 prior to 1931.

¹⁰ Prior to 1921 this

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

	Item	1871	1881	1891	1901	1911	1921
Mineral Production—							
1	Gold.....oz. t.	105,187	63,524	45,018	1,167,216	473,159	926,329
	\$	2,174,412	1,313,153	930,614	24,128,503	9,781,077	19,148,920
2	Silver.....oz. t.	..	355,083 ¹	414,523	5,539,192	32,559,044	13,543,198
	\$	..	347,271 ¹	409,549	3,265,354	17,355,272	8,485,355
3	Copper.....lb.	..	3,260,424 ¹	9,529,401	37,827,019	55,648,011	47,620,820
	\$	..	366,798 ¹	1,226,703	6,096,581	6,886,998	5,953,555
4	Lead.....lb.	..	204,800 ¹	88,665	51,900,958	23,784,969	66,679,592
	\$	..	9,216 ¹	3,857	2,249,387	827,717	3,828,742
5	Zinc.....lb.	..	..	..	788,000 ²	1,877,479	53,089,356
	\$	..	..	..	36,011 ²	108,105	2,471,310
6	Nickel.....lb.	..	830,477 ³	4,035,347	9,189,047	34,098,744	19,293,060
	\$	..	498,286 ³	2,421,208	4,594,523	10,229,623	6,752,571
7	Coal.....short ton	1,063,742 ⁴	1,537,106	3,577,749	6,486,325	11,323,388	15,057,493
	\$	1,763,423 ⁴	2,688,621	7,019,425	12,699,243	26,467,646	72,451,656
8	Natural gas..... M cu. ft.	..	..	..	..	..	14,077,601
9	Petroleum, crude..... bbl.	..	368,987	150,000 ⁶	339,476	1,917,678	4,594,164
	\$	..	..	755,298	622,392	291,092	187,541
10	Asbestos.....short ton	..	..	1,010,211	1,008,275	357,073	641,533
	\$	..	..	9,279	40,217	127,414	92,761
11	Cement.....bbl.	..	..	999,878	1,259,759	2,943,108	4,906,230
	\$	..	69,843 ¹	93,479	450,394	5,692,915	5,752,885
	\$	..	81,909 ¹	108,561	660,030	7,644,537	14,195,143
	Totals, Mineral Production ⁵. \$	..	10,221,255 ⁵	18,976,616	65,797,911	103,220,994	171,923,342
Water Power—							
12	Turbine installation..... h.p.	..	..	71,219	238,902	1,363,134	2,754,157
Central Electric Stations—							
13	Power houses..... No.	..	..	80	58	266	510
14	Capital invested..... \$	..	..	4,113,771	11,891,025	110,838,746	484,669,451
15	Power generated..... '000 kwh.	..	..	..	..	..	5,614,132
16	Customers..... No.	..	..	..	..	..	973,212
Fisheries—							
17	Marketed value of all products \$	7,573,199	15,817,162	18,977,874	25,737,153	34,667,872	34,931,935
Furs—							
18	Pelts taken ⁸ No.	..	..	..	..	..	2,936,407
	\$	..	..	..	..	..	10,151,594
19	Value of animals on fur farms.. \$	..	..	..	..	..	5,977,545
Manufactures—							
20	Employees..... No.	187,942	254,935	369,595	339,173	515,203	438,555
21	Capital..... \$	77,964,020	165,302,623	353,213,000	446,916,487	1,247,583,609	2,697,558,073
22	Salaries and wages..... \$	40,851,009	59,429,002	100,415,350	113,249,350	241,008,416	497,399,761
23	Values of materials used in.... \$	124,907,846	179,918,593	250,759,292	266,527,858	601,509,018	1,365,292,885
Products—							
24	Gross..... \$	221,617,773	309,676,068	469,847,886	481,053,375	1,165,975,639	2,488,987,148
25	Net..... \$	96,709,927	129,757,475	219,088,594	214,525,517	564,466,621	1,123,694,263
26	Index of Industrial Production.... (1935-39=100)	..	..	..	..	..	..
Construction—							
27	Values of contracts awarded... \$	..	..	..	..	345,425,000	240,133,300
Labour—							
Gainfully Occupied— ^{11,12}							
28	Agricultural occupations..... No.	..	..	735,207	716,860	933,735	1,035,283
29	Other primary..... " " " " " "	..	..	58,211	71,584	139,877	115,737
30	Manufacturing..... " " " " " "	..	..	237,972	299,535	372,234	406,677
31	Construction..... " " " " " "	..	..	86,694	89,165	150,567	162,275
32	Transportation and communication..... " " " " " "	..	..	61,310	82,483	158,926	199,568
33	Trade and finance..... " " " " " "	..	..	88,064	99,552	221,805	293,334
34	Service..... " " " " " "	..	..	203,897	236,205	322,895	420,173
35	Clerical..... " " " " " "	..	..	24,121	58,789	106,351	217,937
36	Labourers ¹⁴..... " " " " " "	..	..	116,598	127,867	317,244	306,215
37	Not stated..... " " " " " "	..	..	3,534	792	..	7,149
	Totals, Gainfully Occupied ¹². "	..	..	1,615,608	1,782,832	2,723,634	3,164,348
38	Wage-earners ¹² No.	..	..	..	..	1,628,273	1,972,089

¹ 1887.² 1898.³ 1889.⁴ 1874.⁵ 1892.⁶ Includes other items not specified.⁷ 1886.⁸ Years ended June 30.⁹ Value of factory shipments.¹⁰ Does not include Newfoundland

but reflects changes in Newfoundland production since 1951.

¹¹ 10 years of age or over prior to 1911; 14 years

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

1931	1939	1941	1951	1952	1953	1954	
2,693,892	5,094,379	5,345,179	4,392,751 ●	4,471,725	4,055,723	4,366,440	1
58,093,396	184,115,951	205,789,392	161,872,873 ●	153,246,016	139,597,985	148,764,611	
20,562,247	23,163,629	21,754,408	23,125,825 ●	25,222,227	28,299,335	31,117,949	2
6,141,943	9,378,490	8,323,454	21,865,467 ●	21,065,603	23,774,271	25,907,870	
292,304,390	608,825,570	643,316,713	539,941,589 ●	516,075,097	506,504,074	605,464,042	3
24,114,065	60,934,859	64,407,497	149,026,216 ●	146,679,040	150,953,742	175,712,693	
267,342,482	388,569,550	460,167,005	316,462,751 ●	337,683,891	387,411,588	436,990,488	4
7,260,183	12,313,768	15,470,815	58,229,146 ●	54,671,021	50,076,822	55,250,831	
237,245,451	394,533,860	512,381,636	682,224,335 ●	743,604,155	803,523,295	752,982,353	5
6,059,249	12,108,244	17,477,337	135,762,643 ●	129,833,285	96,101,386	90,207,285	
65,666,320	226,105,856	282,258,235	275,806,272 ●	281,117,072	287,385,777	322,537,961	6
15,267,453	50,920,305	68,656,795	151,269,994 ●	151,349,438	160,430,098	180,173,392	
12,243,211	48,676,990	18,225,921	18,586,823 ●	17,579,002	15,900,673	14,013,579	7
41,207,682	15,692,698	58,059,630	109,038,835 ●	111,026,149	102,721,875	96,600,266	
25,874,723	35,185,146	43,495,353	79,460,667 ●	88,686,465	100,985,923	120,735,214	8
9,026,754	12,507,307	12,665,116	7,159,920 ●	9,517,638	10,877,017	12,482,109	
1,542,573	7,826,301	10,133,838	47,615,534 ●	61,237,322	80,898,897	96,080,345	9
4,211,674	9,846,352	14,415,096	116,655,238 ●	143,038,212	200,582,276	243,877,030	
164,296	364,472	477,846	973,198 ●	929,339	811,226	924,116	10
4,812,886	15,859,212	21,468,840	81,584,345 ●	89,254,913	86,052,895	86,409,212	
10,161,658	5,731,264	8,368,711	17,007,812 ●	18,520,533	22,238,335	22,437,477	11
15,826,243	8,511,211	13,063,588	40,446,288 ●	48,059,470	58,842,022	59,035,644	
230,434,726	474,602,059	560,241,290	1,245,483,595 ●	1,285,342,353	1,336,303,503	1,488,382,091	
6,666,337	8,289,212	8,845,038	13,342,504 ●	14,305,880	14,929,074	16,684,131	12
559	611	607	647 ●	562	524	557	13
1,229,988,951	1,564,603,211	1,641,460,451					14
16,330,867	28,338,030	33,317,663	54,851,844 ●	59,409,198	62,860,927	65,936,440	15
1,632,792	1,941,663	2,081,270	3,439,750 ●	3,620,595	3,817,281	4,001,626	16
30,517,306	40,075,922	62,258,997	175,912,000	149,821,000	150,453,000	163,541,000	17
4,060,356	6,492,222	7,257,337	7,479,272	7,931,742 ●	7,568,865	6,274,727	18
11,803,217	14,286,937	21,123,161	31,134,400	24,215,061 ●	23,349,680	19,287,522	
8,497,237	6,920,464	7,928,971	10,195,561	9,560,702	10,835,709	12,941,155	19
528,640	658,114	961,178	1,258,375 ●	1,288,382	1,327,451	1,268,449	20
3,705,701,893	3,647,024,449	4,905,503,966					21
587,566,990	737,811,153	1,264,862,643	3,276,280,917 ●	3,637,620,160	3,957,018,348	3,881,378,000	22
1,221,911,982	1,836,159,375	3,296,547,019	9,074,526,353 ●	9,146,172,494	9,380,558,682	9,205,701,000	23
2,555,126,448	3,474,783,528	6,076,308,124	16,392,187,132 ●	16,982,687,035*	17,785,416,854*	17,497,769,000*	24
1,252,017,248	1,531,051,901	2,605,119,788	6,940,946,783 ●	7,443,533,199	7,993,069,351	7,869,379,000*	25
..	109.7	164.8	226.5 ¹⁰	233.0	248.4	244.6	26
315,482,000	187,178,500	393,991,300	2,295,499,200 ●	1,812,177,600	2,017,060,700	2,154,959,200	27
1,127,682	..	1,083,816	826,759	..	..	..	28
150,276	..	203,586	196,996	..	..	..	29
495,842	..	709,181	973,982	..	..	..	30
203,056	..	213,493	319,065	..	..	..	31
289,030	..	311,645	492,986	..	..	..	32
352,414	..	370,617	520,761	..	..	..	33
616,953	..	725,456 ¹²	919,922	..	..	..	34
258,684	..	314,051	541,713	..	..	..	35
426,242	..	252,693	323,829	..	..	..	36
1,654	..	11,413	63,600	..	..	..	37
3,921,833	..	4,195,951 ¹²	5,179,613	..	..	..
2,570,097	..	2,816,798 ¹²	4,006,466	..	..	..	38

of age or over after 1921.
Service on June 2, 1941.

¹² Exclusive of the Territories.

¹³ Exclusive of 314,584 persons on Active

¹⁴ Exclusive of labourers in agriculture, fishing, logging and mining.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

	Item	1871	1881	1891	1901	1911	1921
Transportation—							
STEAM RAILWAYS—							
1	Miles in operation.....	No. 2,695	7,194	13,838	18,140	25,400	39,191
2	Capital liability.....	\$ 257,035,188 ¹	284,410,293	632,061,440	816,110,837	1,528,689,201	2,164,687,636
3	Passengers.....	No. 5,190,416 ²	6,943,671	13,222,568	18,385,722	37,097,718	46,793,251
4	Freight.....	ton 5,670,836 ²	12,065,323	21,753,021	36,999,371	79,884,282	83,730,829
5	Earnings.....	\$ 19,470,540 ²	27,987,509	48,192,099	72,898,749	188,733,494	458,008,891
6	Expenses.....	\$ 15,775,532 ²	20,121,418	34,960,449	50,368,726	131,033,785	422,581,205
ELECTRIC RAILWAYS—							
7	Miles in operation.....	No. ..	..	..	553	1,224	1,687
8	Capital liability.....	\$ ..	..	..	..	111,532,347	177,187,436
9	Passengers.....	No. ..	..	..	120,934,656	426,296,792	781,175,654
10	Freight.....	ton ..	..	..	287,926	2,486,072	2,282,292
11	Earnings.....	\$ ..	..	..	5,768,283	20,356,952	44,536,833
12	Expenses.....	\$ ..	..	..	3,435,163	12,096,134	35,945,316
ROAD TRANSPORTATION—							
13	Highways, total milages ⁴	No. ..	..	..	..	..	..
14	Capital expenditure on ⁴.....	\$ ..	..	..	..	..	..
15	Motor vehicles registered.....	No. ..	..	..	..	21,783	464,805
16	Total provincial revenue from licences and operation.....	\$ ..	..	..	..	..	..
SHIPPING—							
17	Vessels on the registry.....	No. ton ..	7,394	7,015	6,697	8,088	7,482
	International Sea-borne— ⁵	ton ..	1,310,896	1,005,475	666,276	770,446	1,223,973
18	Entered.....	ton 6,576,771	6,967,449	9,372,369	13,235,307	25,205,441	27,344,957
19	Cleared.....	ton 6,549,257	6,834,983	9,430,279	12,794,501	22,224,104	27,303,673
20	Totals.....	" 13,126,028	13,802,432	18,802,648	26,029,808	47,429,545	54,648,630
Coastwise—⁵							
21	Entered.....	ton ..	7,664,863	12,835,774	17,927,959	34,280,669	28,567,545
22	Cleared.....	ton ..	7,451,903	12,150,356	16,516,837	32,347,265	27,773,668
23	Totals.....	" ..	15,116,766	24,986,130	34,444,796	66,627,934	56,341,213
CANALS—							
24	Passengers carried.....	No. 100,377	118,136	146,336	190,428	304,904	230,129
25	Freight.....	ton 3,955,621	2,853,230	2,902,526	5,665,259	38,030,353	9,407,021
AIR TRANSPORTATION—⁷							
26	Miles flown.....	No. ..	..	..	..	..	294,449
27	Passenger miles.....	" ..	..	..	..	..	..
28	Freight carried.....	lb. ..	..	..	..	..	79,850
29	Mail carried.....	" ..	..	..	..	..	..
Communications—							
30	Telegraphs, miles of line.....	No. ..	1,947	30,565	35,938	42,351	52,784
31	Telephones.....	" ..	..	..	63,192	302,759 ⁸	902,090
32	Telephones, employees ⁹.....	" ..	..	..	..	10,425 ⁸	19,943
Post Office—							
33	Revenue.....	\$ 803,637	1,344,970	2,515,824	3,421,192	9,146,952	26,331,119
34	Expenditure.....	\$ 994,876	1,876,658	3,161,676	3,837,376	7,954,223	24,661,262
35	Money orders issued.....	\$ 4,546,434	7,725,212	12,478,178	17,956,258	70,614,862	173,523,322
Wholesale and Retail Trade—							
Wholesale—							
36	Establishments.....	No. ..	..	..	..	..	..
37	Employees.....	" ..	..	..	..	..	..
38	Net sales.....	\$ ..	..	..	..	..	..
39	Retail—Stores.....	No. ..	..	..	..	..	..
40	Employees, full time.....	" ..	..	..	..	..	..
41	Net sales.....	\$ ..	..	..	..	..	..

¹ 1876. ² 1875. ³ Fiscal years. ⁴ Excludes mileage of unimproved road allowance not in use in Saskatchewan. ⁵ Fiscal years prior to 1941. ⁶ Includes sea-going and inland international. ⁷ Includes Atlantic and Pacific overseas services of Canadian carriers from 1949. ⁸ As at June 30. ⁹ Ex-

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

1931	1939	1941	1951	1952	1953	1954	
42,280	42,637	42,441	42,956●	42,953	43,163	43,132	1
4,232,022,088	3,367,702,730	3,397,488,564	3,571,693,932●	3,715,208,672	3,861,756,258	3,975,594,115	2
26,396,812	20,482,296	29,779,241	30,995,604●	30,167,145	28,736,159	28,396,528	3
74,129,694	84,631,122	116,808,091	161,280,521●	162,175,381	156,249,259	143,194,840	4
358,549,382	367,179,095	538,291,947	1,088,583,789●	1,172,158,665	1,205,935,414	1,095,440,918	5
321,025,588	304,373,285	403,733,542	977,577,062●	1,057,186,304	1,100,393,836	1,019,534,989	6
1,379	1,083	1,028	595	568	552	532	7
215,818,096	204,581,406	193,532,914	199,411,550	153,516,177	186,117,922	192,896,895	8
720,468,361	632,533,152	795,170,569	1,165,120,371	1,109,299,866	1,076,979,055	1,063,705,752	9
1,977,441	2,313,748	3,265,449	4,480,072	4,079,474	3,968,742	3,527,495	10
49,088,310	42,864,150	55,334,647	99,114,548	104,028,691	107,990,692	109,334,662	11
35,367,068	29,605,328	37,030,823	97,880,959	101,110,712	105,027,443	109,006,301	12
378,094	497,707	561,489	511,878●	512,795 ⁴	517,809	524,055	13
66,250,229	62,577,241	37,237,954	192,810,362●	244,614,842	234,334,349	229,087,011	14
1,200,668	1,439,245	1,572,784	2,872,420●	3,155,824	3,430,672	3,644,589	15
42,231,027	79,915,560	91,139,300	252,213,001●	278,004,926	307,664,164	329,552,161	16
8,966	8,419	8,667	15,292●	15,815	16,181	16,568	17
1,484,423	1,287,365	1,271,811	1,659,351●	1,731,064	1,694,715	1,632,306	18
45,834,452	44,775,116	31,452,400	47,508,342●	52,156,098	56,589,078	54,767,687	19
45,077,424	47,052,371	33,313,400	52,750,461●	53,023,949	61,962,634	59,578,143	20
90,911,876	91,827,487	64,765,800	100,258,803●	105,180,047	118,551,712	114,345,830	21
47,134,652	45,386,457	48,107,158	60,802,798●	56,776,504	67,417,391	64,291,085	22
47,540,555	43,183,652	46,433,320	55,609,082●	57,876,563	62,022,657	60,247,848	23
94,675,207	88,570,109	94,540,478	116,411,880●	114,653,067	129,440,048	124,538,933	24
126,633	62,790	100,092	93,512	104,135	112,082	116,231	25
16,189,074	23,391,077	23,453,367	29,325,034	31,354,139	33,373,064	30,070,701	26
7,046,276	10,969,271	12,508,390	52,578,934●	58,775,340	64,076,912	61,582,481	27
4,073,552	26,107,750	56,723,714	689,819,451●	805,642,141	942,269,095	1,066,805,242	28
2,372,467	16,559,611	16,559,611	59,199,354●	135,055,106	177,451,345	109,299,356	29
470,461	1,900,347	3,411,971	16,824,652●	18,328,310	20,319,952	24,228,571	30
53,228	52,464	52,246	53,580●	52,699	52,727	46,284	31
1,364,200	1,397,272	1,562,146	3,113,766●	3,352,366	3,606,407	3,860,269	32
23,825	17,636	20,103	47,387●	48,207	50,540	51,929	33
30,416,107	35,288,220	40,883,366	90,454,678●	104,622,208	112,024,245	111,107,434	34
36,292,604	35,456,181	38,699,674	91,781,466●	97,973,263	105,553,191	113,581,752	35
167,749,651	145,204,787	173,565,550	511,915,621●	580,823,622	623,266,884	676,080,657	36
13,140 ¹⁰	..	24,758	26,167●	..	..	..	37
90,564 ¹⁰	..	117,471	{178,658 ¹¹	..	..	..	38
3,325,210,300 ¹⁰	..	5,290,751,000	{224,526 ¹²	..	..	..	39
125,003 ¹⁰	..	14,401,036,700	{151,626	..	..	..	40
238,683 ¹⁰	..	137,331	{454,794 ¹¹	..	..	..	41
2,755,569,900 ¹⁰	2,447,658,000 ¹³	297,047	{603,891 ¹²	11,532,085,000 ¹³	12,125,802,000 ¹³	12,065,758,000 ¹³	42
		3,440,901,700	10,693,097,000●				

cludes rural lines in Saskatchewan.
maximum.¹⁰ Census figures for 1930.¹¹ Average minimum.¹² Average¹³ Estimated on intercensal survey.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

	Item	1871	1881	1891	1901	1911	1921
Wholesale and Retail Trade—concl.							
1	Services—						
2	Establishments..... No.	..	..	..	..	..	..
3	Employees..... "	..	..	..	..	..	..
4	Receipts..... \$	..	..	..	..	..	..
5	Commercial Failures ¹ No.	..	..	1,861	1,341	1,332	2,451
6	Liabilities..... \$	..	..	16,723,939	10,811,671	13,491,196	73,299,111
Foreign Trade—²							
7	Exports, domestic..... \$'000	57,630	83,945	88,672	177,431	274,317	1,189,164
8	Re-exports..... \$'000	9,853	13,375	8,799	17,078	15,684	21,264
9	Imports, for consumption..... \$'000	84,214	90,488	111,534	177,931	452,725	1,240,159
	Totals, Foreign Trade..... \$'000	151,698	187,808	209,004	372,440	742,725	2,450,587
10	Domestic exports to all Commonwealth..... \$'000	25,346	45,980	47,137	100,748	148,967	403,452
11	Exports to United Kingdom..... \$'000	21,734	42,637	43,244	92,858	132,157	312,845
12	Imports from all Commonwealth..... \$'000	51,317	45,514	44,337	46,653	129,468	266,003
13	Imports from United Kingdom..... \$'000	48,498	42,885	42,019	42,820	109,935	213,974
14	Exports to United States..... \$'000	29,164	34,038	37,743	67,984	104,116	542,323
15	Imports from United States..... \$'000	27,186	36,339	52,033	107,378	275,824	856,177
16	Exports to other countries..... \$'000	3,120	3,926	3,791	8,700	21,233	243,389
	Imports from other countries..... \$'000	5,712	8,635	15,163	23,900	47,433	117,979
EXPORTS, DOMESTIC, BY CHIEF ITEMS—							
17	Wheat..... '000 bu.	1,749	2,524	2,108	9,740	45,802	129,215
	..... \$'000	1,982	2,594	1,583	6,872	45,521	310,952
18	Wheat flour..... '000 bbl.	306	440	297	1,119	3,049	6,017
	..... \$'000	1,610	2,173	1,389	4,015	13,855	66,520
19	Oats..... '000 bu.	542	2,927	261	8,155	5,432	14,321
	..... \$'000	231	1,192	130	2,491	2,145	14,152
20	Barley..... '000 bu.	..	8,811	4,892	2,386	1,545	8,564
	..... \$'000	..	6,261	2,930	1,123	831	11,469
21	Bacon, hams, shoulders and sides..... '000 cwt.	103	104	76	1,055	599	982
	..... \$'000	1,019	758	628	11,778	8,526	31,492
22	Beef and veal..... '000 cwt.	41	14	3	97	10	520
	..... \$'000	241	84	16	813	92	8,331
23	Cheese..... '000 lb.	8,271	49,256	106,202	195,926	181,896	133,620
	..... \$'000	1,110	5,510	9,509	20,697	20,740	37,147
24	Planks and boards..... M ft.	829,550	652,621	775,793	735,695	1,127,723	1,604,463
	..... \$'000	8,356	7,102	8,627	9,381	21,510	71,079
25	Woodpulp..... '000 cwt.	..	..	..	..	6,589	14,363
	..... \$'000	..	..	281	1,937	5,716	71,552
26	Newsprint..... '000 cwt.	..	..	..	..	..	15,113
	..... \$'000	..	..	..	..	3,092	78,922
27	Farm implements..... \$'000	..	31	253	1,743	5,912	12,527
28	Copper..... '000 lb.	6,246	39,604	10,994	26,346	55,005	74,176
	..... \$'000	120	150	505	2,659	5,575	12,748
29	Nickel..... '000 lb.	..	..	5,352	9,538	34,768	47,018
	..... \$'000	..	..	240	958	3,842	9,405
30	Lead..... '000 cwt.	7	..	..	656	32	111
	..... \$'000	7	..	7	2,517	101	526
31	Zinc..... '000 cwt.	..	..	..	..	..	177
	..... \$'000	..	..	..	..	..	964
32	Asbestos..... '000 ton	..	..	7	27	70	191
	..... \$'000	..	..	514	865	2,076	12,633
EXPORTS, DOMESTIC—							
33	Vegetable products (except chemicals, fibres and wood) \$'000	..	..	13,743	25,542	84,368	482,140
34	Animals and their products (except chemicals and fibres) \$'000	..	..	36,399	68,465	69,693	188,360
35	Fibres, textiles and textile products..... \$'000	..	..	873	1,881	1,819	18,784
36	Wood, wood products and paper..... \$'000	..	..	25,351	33,100	56,335	284,561
37	Iron and its products..... \$'000	..	..	557	3,779	9,884	76,501
38	Non-ferrous metals and their products..... \$'000	..	..	1,619	33,395	34,001	45,939
39	Non-metallic minerals and their products (except chemicals)..... \$'000	..	..	3,989	7,356	10,038	40,345
40	Chemicals and allied products \$'000	..	..	851	792	3,089	20,143
41	All other commodities..... \$'000	..	..	5,291	3,122	5,089	32,390
	Totals, Exports, Domestic. \$'000	57,630	83,945	88,672	177,431	274,317	1,189,164

¹ Census figures for 1930.² Figures include 5,542 hotels with 46,556 average minimum and 64,062 average maximum full time employees and with receipts of \$348,401,100.³ Average minimum.⁴ Average

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

1931	1939	1941	1951	1952	1953	1954	
42,223 ¹	..	49,271	58,748 ² ●	..	..	..	1
55,257 ¹	..	62,781	143,800 ³ ●	..	..	..	2
249,455,900 ¹	..	254,678,000	1,085,757,900 ●	..	..	..	3
2,563	1,299	882	797	843	1,039	1,381	4
52,987,554	11,635,000	6,959,000	19,048,000	19,823,000	30,304,000	52,017,000	5
587,653	924,926	1,621,003	3,914,460 ●	4,301,081	4,117,406	3,881,272	6
11,907	10,996	19,451	48,924 ●	54,879	55,195	65,645	7
628,098	751,056	1,448,792	4,084,856 ●	4,030,468	4,382,830	4,093,196	8
1,227,659	1,686,977	3,089,246	8,048,241 ●	8,386,427	8,555,432	8,040,113	
219,781	430,807	878,641	872,407 ●	1,007,533	897,585	848,461	9
170,597	328,099	658,228	631,461 ●	745,845	665,232	653,408	10
152,000	188,900	359,942	727,089 ●	544,462	623,962	574,231	11
109,468	114,007	219,419	420,985 ●	359,757	453,391	392,472	12
240,197	380,392	599,713	2,297,675 ●	2,306,955	2,418,915	2,317,153	13
393,775	496,898	1,004,498	2,812,927 ●	2,976,962	3,221,214	2,961,380	14
127,675	113,728	142,649	744,379 ●	956,593	800,906	715,658	15
82,323	65,257	84,351	544,840 ●	509,054	537,654	557,586	16
194,826	162,905	196,646	237,061 ●	336,024	290,073	208,262	17
117,871	109,051	161,856	441,043 ●	621,292	567,907	375,339	
5,697	5,342	11,439	12,079 ●	13,246	11,144	10,074	18
20,207	16,378	44,807	113,854 ●	116,055	102,160	88,029	
11,177	12,116	7,692	59,273 ●	80,938	80,393	40,244	19
3,768	4,142	3,295	53,899 ●	68,240	60,403	32,467	
24,600	16,795	3,209	43,906 ●	102,713	109,372	77,013	20
9,924	7,882	1,959	58,822 ●	145,684	136,729	89,363	
128	1,878	4,646	61 ●	35	70	81	21
2,035	32,656	77,494	3,650 ●	2,502	5,508	6,349	
37	39	62	934 ●	668	255	186	22
430	518	996	50,965 ●	30,323	9,267	4,538	
84,788	90,945	92,331	30,653 ●	2,095	16,429	5,006	23
10,595	12,249	13,555	10,232 ●	880	4,518	1,544	
937,733	2,113,160	2,282,139	3,435,510 ●	3,328,563	3,364,762	4,033,512	24
20,116	48,829	74,205	312,198 ●	295,949	282,103	324,724	
12,451	14,110	28,234	44,866 ●	38,812	39,003	43,608	25
30,057	31,001	85,898	365,133 ●	291,863	248,675	271,418	
40,165	53,174	65,240	102,241 ●	106,549	107,505	110,431	26
107,233	115,687	154,357	536,372 ●	591,790	619,033	635,670	
2,889	6,975	30,972	108,438 ●	105,408	74,316	76,771	27
196,789	549,920	430,087	304,193 ●	336,950	399,136	445,031	28
17,065	52,396	40,951	81,691 ●	100,806	117,351	127,334	
63,529	234,781	275,190	262,368 ●	284,045	290,236	317,438	29
14,182	57,934	67,680	136,689 ●	150,982	162,542	182,154	
2,208	3,697	3,818	2,536 ●	3,178	3,202	3,541	30
4,660	9,850	13,525	45,290 ●	49,676	37,835	40,530	
2,391	3,572	3,988	6,105 ●	7,045	7,105	7,826	31
5,565	9,922	12,278	83,669 ●	96,283	57,572	58,392	
159	346	454	942 ●	902	879	888	32
5,175	15,365	19,411	80,333 ●	86,510	83,972	82,566	
209,761	220,118	285,709	894,210 ●	1,183,496	1,096,763	803,481	33
70,938	131,804	201,731	348,033 ●	237,942	250,919	269,861	34
5,394	14,428	30,820	36,858 ●	27,697	24,333	20,969	35
185,493	242,541	387,113	1,399,076 ●	1,366,787	1,295,396	1,378,354	36
19,086	63,102	239,901	342,299 ●	406,946	358,438	300,692	37
56,159	182,890	244,012	569,870 ●	706,732	682,183	709,017	38
14,977	29,332	45,172	131,529 ●	143,474	147,393	145,573	39
10,849	24,263	58,676	131,690 ●	124,565	137,885	161,293	40
14,995	16,448	127,869	60,895 ●	103,441	124,095	92,031	41
587,653	924,926	1,621,003	3,914,460	4,301,081	4,117,406	3,881,272	

maximum.

¹ Dun and Bradstreet figures.² Fiscal years prior to 1931.³ Less than 500.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

	Item	1871	1881	1891	1901	1911	1921
Foreign Trade—concluded							
IMPORTS FOR CONSUMPTION—							
1	Vegetable products (except chemicals, fibres and wood). \$'000	..	..	24,212	38,036	79,214	259,431
2	Animals and their products (except chemicals and fibres).... \$'000	..	..	8,081	14,023	30,672	61,722
3	Fibres, textiles and textile products..... \$'000	..	..	28,670	37,285	87,916	243,608
4	Wood, wood products and paper..... \$'000	..	..	5,203	8,197	26,852	57,449
5	Iron and its products..... \$'000	..	..	15,143	29,956	91,968	245,626
6	Non-ferrous metals and their products..... \$'000	..	..	3,811	7,167	27,580	55,651
7	Non-metallic minerals and their products (except chemicals)..... \$'000	..	..	14,139	21,255	53,431	206,095
8	Chemicals and allied products \$'000	..	..	3,698	5,685	12,472	37,887
9	All other commodities..... \$'000	..	..	8,577	16,327	42,620	72,688
	Totals, Imports..... \$'000	84,214	90,488	111,534	177,931	452,725	1,240,159
Prices—							
10	Wholesale indexes (1935-39=100)....	81.3	72.4	67.1	63.7	81.1	143.4
11	Consumer price index (1949=100)....	..	..	..	..	..	80.9
Federal Finance—¹							
12	Customs revenue..... \$	11,841,105	18,406,092	23,305,218	28,293,930	71,838,089	163,266,804
13	Excise revenue..... \$	4,295,945	5,343,022	6,914,850	10,318,266	16,869,837	37,118,367
14	Income tax..... \$	...	...	...	...	...	46,381,824
15	Sales tax (net)..... \$	...	...	...	...	...	38,114,539
16	Total receipts from taxation..... \$	16,320,369	23,942,139	30,220,068	38,612,196	88,707,926	368,770,498
17	Per capita receipts from taxes... \$	4.50	5.63	6.32	7.28	12.69	43.10
18	Total revenue..... \$	19,335,561	29,635,298	38,579,311	52,514,701	117,780,409	436,292,185
19	Revenue per capita..... \$	5.34	6.96	8.07	9.91	16.87	50.99
20	Total expenditure..... \$	19,293,478	33,796,643	40,793,208	57,982,866	122,861,250	528,302,513
21	Expenditure per capita..... \$	5.32	7.94	8.54	10.94	17.58	61.75
22	Gross debt..... \$	115,492,683	199,861,537	289,899,230	354,732,433	474,941,487	2,902,482,117
23	Assets..... \$	37,786,165	44,465,757	52,090,199	86,252,429	134,899,435	561,603,133 ²
24	Net debt..... \$	77,706,518	155,395,780	237,809,031	268,480,004	340,042,052	2,340,878,984
Provincial Finance—¹							
25	Gross ordinary revenue..... \$	5,518,946	7,858,698	10,693,815	14,074,991	40,706,948	102,030,458
26	Gross ordinary expenditure.... \$	4,935,008	8,119,701	11,628,353	14,146,059	38,144,511	102,569,515
National Accounts—							
27	National income..... \$'000,000	..	..	..	..	..	..
Note Circulation—							
28	Chartered bank notes..... \$	20,914,637	28,516,692	33,061,042	50,601,205	89,982,223	194,621,710
29	Bank of Canada and other notes ³ \$	7,244,341	14,539,795	16,176,816	27,898,509	99,308,945	271,531,162
Chartered Banks—							
30	Capital, paid-up..... \$	37,095,340	59,534,977	60,700,697	67,035,615	103,009,256	129,096,339
31	Assets..... \$	125,273,631	200,613,879	269,307,032	531,829,324	1,303,131,260	2,841,782,079
32	Liabilities to the public..... \$	80,250,974	127,176,249	187,332,325	420,003,743	1,097,661,393	2,556,454,190
33	Deposits payable on demand... \$	..	..	..	95,169,631	304,801,755	551,914,643
34	Deposits payable after notice... \$	..	..	..	221,624,664	568,976,209	1,289,347,063
35	Totals, deposits ⁴ \$	56,287,391	94,346,481	148,396,968	349,573,327	980,433,788	2,264,586,736
36	Cheque payments..... \$'000	..	..	..	..	..	27,157,474 ¹⁰
Savings Banks—							
37	Deposits in Post Office..... \$	2,497,260	6,208,227	21,738,648	39,950,813	43,330,579	29,010,619
38	Deposits in Government banks \$	2,072,037	9,628,445	17,661,378	16,098,146	14,673,752	10,150,189
39	Deposits in special banks..... \$	5,766,712	7,685,888	10,982,232	19,125,097	34,770,386	58,576,775
Loan Companies (Federal)—							
40	Assets..... \$	8,392,464	73,906,638	125,041,146	158,523,307	389,701,988	96,698,810
41	Liabilities..... \$	8,392,958	71,965,017	123,915,704	158,523,307	389,701,988	95,281,122
Loan Companies (Provincial)—							
42	Assets..... \$	..	..	..	..	..	86,144,153 ¹¹
43	Liabilities..... \$	..	..	..	..	..	87,385,807 ¹¹

¹ Unless otherwise stated, figures are for fiscal years ended within years given. ² Not comparable with previous years as excludes refunds applicable to other excise duties. ³ Active assets only. ⁴ Fiscal year ended nearest Dec. 31 of the year stated. ⁵ Includes Yukon Territory in this and subsequent years except in 1952 for which figures were not available. ⁶ In January 1950, the chartered banks' liability for such

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

1931	1939	1941	1951	1952	1953	1954	
134,433	127,835	171,835	542,641 ●	489,192	488,368	540,289	1
28,630	32,758	34,846	125,562 ●	85,540	88,227	85,412	2
90,152	100,866	161,139	483,520 ●	359,440	387,115	333,324	3
34,923	33,703	36,739	137,047 ●	134,554	160,951	166,001	4
116,209	183,160	431,622	1,332,251 ●	1,406,627	1,531,556	1,322,497	5
38,667	42,108	94,758	290,848 ●	296,875	364,571	357,185	6
106,088	132,824	189,954	684,535 ●	641,885	658,476	599,216	7
31,337	43,706	65,382	191,813 ●	187,713	221,834	220,406	8
47,659	54,096	262,516	296,638 ●	428,642	481,733	468,866	9
628,098	751,056	1,448,792	4,084,856 ●	4,030,468	4,382,830	4,093,196	
94-0	99-2	116-4	240-2	226-0	220-7	217-0	10
67-9	63-2	69-6	113-7	116-5	115-5	116-2	11
131,208,955	78,751,111	130,757,011	295,721,750 ●	346,364,563	389,442,109	407,312,241	12
57,746,808	51,313,658	88,607,559	241,046,174 ●	217,939,983	241,360,370	226,732,460	13
71,048,022	142,026,138	248,143,022	1,513,135,510 ●	2,161,373,408	2,473,790,089	2,432,603,505	14
20,783,944	122,139,067	179,701,224	460,120,405 ●	573,470,562	566,233,167 ²	587,331,544 ¹	15
296,276,396	435,706,794	778,175,450	2,785,349,899 ●	3,657,775,082	3,997,592,937	4,003,584,453	16
29-02	39-12	68-37	203-13 ●	261-10	277-03	270-86	17
356,160,876	502,171,354	872,169,645	3,112,535,948 ●	3,980,908,652	4,360,822,789	4,396,319,583	18
35-04	45-03	76-63	226-99 ●	284-17	302-21	297-43	19
440,008,855	553,063,098	1,249,601,446	2,901,241,698 ●	3,732,875,250	4,337,275,512	4,350,522,378	20
43-26	49-60	109-80	211-58 ●	266-46	300-57	294-33	21
2,610,265,699	3,638,320,816	5,018,928,037	16,923,307,028 ●	17,521,625,531	17,918,490,812	17,923,189,502	22
348,653,762 ³	485,761,502 ³	1,370,236,588 ³	5,489,992,080 ³	6,336,343,985 ³	6,756,756,543 ³	6,807,252,437 ³	23
2,261,611,937	3,152,559,314	3,648,691,449	11,433,314,948 ●	11,185,281,546	11,161,734,269	11,115,937,064	24
179,143,480	296,836,927	404,791,000 ⁴	1,241,249,000 ⁴ ●	1,369,183,000 ⁴	1,465,614,000 ⁴	..	25
190,754,202	289,467,574	349,818,000 ⁴	1,132,891,000 ⁴ ●	1,207,475,000 ⁴	1,295,194,000 ⁴	..	26
3,333	4,373	6,563	17,138 ●	18,326	19,156	18,774	27
128,881,241	88,820,636	78,761,049	..	..	..	..	28
153,079,362	184,904,919	406,433,409	1,360,679,422	1,446,587,418	1,530,102,146	1,623,456,907	29
144,674,853	145,500,000	145,500,000	146,502,115 ●	148,522,618	149,954,371	168,218,000 ⁵	30
3,066,018,472	3,591,564,586	4,008,381,256	9,384,800,263 ●	9,760,480,522	10,334,778,308	11,433,157,000 ⁵	31
2,741,554,219	3,298,351,099	3,711,870,680	9,019,780,755 ●	9,384,111,788	9,945,599,866	10,920,704,000 ⁵	32
578,604,394	741,733,241	1,088,198,370	2,711,524,845 ●	2,931,558,298	3,081,380,359	3,597,243,000 ⁵	33
1,437,976,832	1,699,224,304	1,616,129,007	4,592,929,318 ●	4,811,471,906	5,098,833,001	5,615,070,000 ⁵	34
2,422,834,828	3,060,859,111	3,464,781,844	8,464,510,837 ●	8,899,236,252	9,482,574,676	10,713,000 ⁵	35
31,586,468	31,617,352	39,242,957	112,184,633 ●	125,196,894	137,416,847	148,062,796	36
24,750,227	23,045,576	22,176,633	37,661,921	38,031,232	39,322,230	37,792,914 ⁶	37
69,820,422	81,566,754	76,391,775	193,982,871	200,342,385	214,122,001	219,372,081	38
147,094,183	136,358,786	130,795,391	203,103,850	206,973,153	217,019,970	255,446,553	40
146,046,087	136,351,602	130,787,116	165,768,886	175,107,452	184,448,041	221,612,649	41
65,728,238	58,526,904	58,220,073	88,991,635	96,333,209	106,571,244	117,936,572	42
66,387,987	58,533,671	58,220,073	63,699,805	70,406,200	78,117,467	88,083,833	43

of their notes as then remained outstanding was transferred to the Bank of Canada.

to 1901. Annual averages of month-end figures from 1911 to 1953. As at Dec. 31 for 1954.

comparable with previous years. See p. 1110.

⁹ Includes deposits of Federal and Provincial Governments and also deposits elsewhere than in Canada from 1901.

¹⁰ 1924.

¹¹ 1922.

⁷ As at June 30 from 1871

⁸ Not strictly

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—concluded

	Item	1871	1881	1891	1901	1911	1921
	Licencees under the Small Loans Act—						
	SMALL LOANS COMPANIES—						
1	Assets..... \$	..	..	..	..	..	..
2	Liabilities..... \$	..	..	..	..	..	..
	MONEYLENDERS—						
3	Assets..... \$	..	..	..	..	..	..
4	Liabilities..... \$	..	..	..	..	..	..
	Trust Companies (Federal)—						
	ASSETS—						
5	Company funds..... \$	..	..	..	..	..	10,237,930
6	Guaranteed funds..... \$	..	..	..	..	..	8,774,185
	LIABILITIES—						
7	Company funds..... \$	..	..	..	..	..	9,907,331
8	Guaranteed funds..... \$	..	..	..	..	..	8,549,642
9	ESTATES, TRUST AND AGENCY FUNDS..... \$	..	..	..	..	..	79,252,639
	Trust Companies (Provincial)—³						
	ASSETS—						
10	Company funds (par value).... \$	..	..	..	..	..	31,418,403
11	Guaranteed funds (par value).. \$	..	..	..	..	..	32,885,302
12	ESTATES, TRUST AND AGENCY FUNDS..... \$	..	..	..	..	..	629,953,917
	Dominion Fire Insurance—⁴						
13	Amounts at risk, Dec. 31..... \$	228,453,784	462,210,968	759,602,191	1,038,687,619	2,279,868,346	6,020,513,832
14	Premium income for each year. \$	2,321,716	3,827,116	6,168,716	9,650,348	20,575,255	47,312,564
15	Claims paid during each year.. \$	1,549,199	3,169,824	3,905,697	6,774,956	10,936,948	27,572,560
	Provincial Fire Insurance—						
16	Amounts at risk, Dec. 31..... \$	..	..	..	..	..	1,269,764,435
17	Premium income for each year. \$	..	..	..	..	..	5,545,549
18	Claims paid during each year.. \$	..	..	..	..	..	3,544,820
	Dominion Life Insurance—⁴						
19	Amounts in force, Dec. 31..... \$	45,825,935	103,290,932	261,475,229	463,769,034	650,220,771	2,934,843,848
20	Premium income for each year. \$	1,852,974	3,094,689	8,417,702	15,189,854	31,619,626	98,864,371
21	Claims paid during each year.. \$	..	..	..	6,845,941	11,051,679	23,997,262
	Provincial Life Insurance—						
22	Amounts in force, Dec. 31..... \$	..	..	..	..	..	222,871,178
23	Premium income for each year. \$	..	..	..	..	..	4,389,008
24	Claims paid during each year.. \$	..	..	..	..	..	2,812,077

¹ Includes moneylenders.² Included with small loans companies.³ Compiled from data supplied voluntarily to the Superintendent of Insurance by provincial companies and estimated to cover about 90 p.c. of all

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—concluded

1931	1939	1941	1951	1952	1953	1954	
827,373 823,120	5,466,679 5,424,047	7,918,926 7,918,926	73,980,068 ● 73,980,068 ●	87,597,097 87,597,097	154,737,883 ¹ 154,737,883 ¹	172,173,681 ¹ 172,173,681 ¹	1 2
..	..	11,351,467 11,351,467	30,570,466 ● 30,570,466 ●	46,125,804 46,125,804	1 1	1 1	3 4
15,459,347 25,718,219	20,176,418 36,001,000	20,596,781 38,570,855	28,446,331 ● 93,565,917 ●	28,731,666 107,429,793	29,629,779 110,366,037	29,451,872 140,601,795	5 6
15,066,431 25,718,221	19,351,839 36,001,000	20,086,776 38,570,855	26,658,321 ● 93,565,917 ●	28,583,274 107,429,793	29,048,202 110,366,037	28,850,642 140,601,795	7 8
215,698,469	242,369,850	268,596,524	543,983,754 ●	588,550,279	631,231,540	663,520,956	9
66,338,148 125,829,165	61,292,364 114,606,960	58,165,471 108,912,208	74,399,404 ● 258,413,136 ●	75,097,721 265,257,221	81,569,089 268,175,625	83,140,092 383,697,760	10 11
1,961,948,175	2,422,219,901	2,418,950,841	3,282,558,573 ●	3,383,650,088	3,470,781,614	3,734,874,516	12
9,544,641,293 50,342,669 29,938,409	10,200,346,551 40,984,276 15,738,902	11,386,819,286 49,305,539 17,814,322	33,490,653,184 ● 134,496,218 ● 52,086,541 ●	37,317,499,723 139,777,732 61,124,918	41,703,092,570 145,971,915 66,755,144	45,605,786,183 148,446,105 70,443,828	13 14 15
1,341,184,333 7,185,066 4,985,605	1,284,998,454 5,750,302 3,170,597	1,120,181,968 3,992,765 2,237,832	2,887,564,984 ● 11,614,247 ● 6,174,914 ●	2,869,068,710 11,695,251 5,767,009	3,394,406,231 13,552,440 7,041,774	3,063,622,286 13,217,519 7,257,343	16 17 18
6,622,267,793 225,100,571 56,579,358	6,776,262,587 198,042,144 73,936,661	7,348,550,742 203,459,238 75,082,008	17,235,583,302 ● 394,019,379 ● 128,489,084 ●	19,090,628,497 422,698,223 130,016,851	21,226,905,619 454,763,007 136,748,240	23,133,695,025 ² 486,396,759 ² 154,236,765 ²	19 20 21
202,094,301 5,178,615 2,603,453	134,554,434 3,491,402 3,178,604	164,451,218 3,988,952 2,583,958	708,733,573 ● 16,806,502 ● 6,727,241 ●	937,333,486 22,638,816 8,243,401	1,093,568,633 23,653,050 8,146,839	1,290,183,490 27,842,856 8,932,337 ²	22 23 24

provincial business. The figures included all the large and most of the small provincial companies.
fraternal insurance. ² Includes annuity contracts.

⁴ Excludes

APPENDIX

Certain information given in Chapter II on Constitution and Government is brought up to the date of going to press in this Appendix.

Page 60, Table 4—Members of the Seventeenth Ministry of the Federal Government

The name of Hon. Alcide Côté, Postmaster General, who died Aug. 7, 1955, is deleted and the office of Hon. Hugues Lapointe is revised to read Minister of Veterans Affairs and Postmaster General.

Page 61, Table 5—Members of the Queen's Privy Council for Canada

Delete the name of the Hon. Alcide Côté who, from Feb. 13, 1952 to his death on Aug. 7, 1955, ranked as a Member of the Cabinet.

Page 62, Table 6—Duration and Sessions of the Federal Parliament

Additional information *re* 22nd Parliament:—

<u>Item</u>	<u>2nd Session</u>	<u>3rd Session</u>
Date of Opening.....	Jan. 7, 1955	Jan. 10, 1956
Date of Prorogation.....	July 28, 1955	Aug. 14, 1956
Days of Session.....	203	218
Sitting Days of House of Commons.....	140	152

Page 80, Table 11—Federal By-elections

By-elections from May 31, 1955 to July 31, 1956:—

<i>Electoral District and Province</i>	<i>Date of By-election</i>	<i>Voters on List</i>	<i>Candidates</i>	<i>Votes Polled</i>	<i>Name of New Member</i>	<i>P.O. Address</i>	<i>Party Affiliation</i>
		No.	No.	No.			
Battle River - Camrose, Alta.....	June 20, 1955	30,897	3	20,416	JAMES ALEXANDER SMITH	Kitscoty.....	S.C.
Bellechasse, Que.....	Sept. 26, 1955	16,208	2	11,390	OVIDE LAFLAMME.....	Quebec.....	Lib.
Quebec South, Que.....	Sept. 26, 1955	35,824	3	25,024	FRANCIS GAVAN POWER.	Quebec.....	Lib.
Restigouche-Madawaska, N.B....	Sept. 26, 1955	34,236	3	24,762	JOSEPH CHARLES VANHORN.....	Campbellton	P.C.
St. Jean-Iberville-Napierville, Que.....	Dec. 19, 1955	28,997	6	21,957	J.-ARMAND MÉNARD.....	St. Jean.....	Lib.
Spadina, Ont.....	Oct. 24, 1955	44,735	4	19,998	CHARLES E. REA.....	Toronto.....	P.C.
Témiscouata, Que.....	Sept. 26, 1955	27,177	2	20,235	JEAN-PAUL ST. LAURENT.	Quebec.....	Lib.

Page 84—Provincial Governments

With reference to the footnote to page 84, provincial elections were held in five provinces between May 31, 1955 and the date of going to press—New Brunswick on June 18, 1956, Quebec and Saskatchewan on June 20, 1956, British Columbia on Sept. 19, 1956, and Newfoundland, Oct. 2, 1956. The Ministries are shown as at various dates subsequent to the elections.

Second Ministry—Newfoundland*

(Party standing at latest General Election, Oct. 2, 1956: 32 Liberals, 4 Progressive Conservatives.)

Premier.....	Hon. J. R. SMALLWOOD
Attorney General.....	Hon. L. R. CURTIS
Minister of Mines and Resources.....	Hon. W. J. KEOUGH
Minister of Municipal Affairs and Supply.....	Hon. S. J. HEFFERTON
Minister of Labour.....	Hon. C. H. BALLAM
Minister of Public Works.....	Hon. E. S. SPENCER
Minister of Economic Development.....	Hon. J. R. CHALKER
Minister of Finance.....	Hon. G. J. POWER
Minister of Provincial Affairs and Solicitor General.....	Hon. MYLES MURRAY
Minister of Education.....	Hon. F. W. ROWE
Minister of Public Welfare.....	Hon. B. J. ABBOTT
Minister of Health.....	Hon. J. M. McGRATH
Minister of Fisheries and Co-operatives.....	Hon. J. T. CHEESEMAN
Minister without Portfolio.....	Hon. P. J. LEWIS

* Portfolios as at Oct. 3, 1956.

New Brunswick—Twenty-Second Ministry*

(Party standing at latest General Election, June 18, 1956: 37 Conservatives, 15 Liberals.)

Premier and Minister of Public Works.....	Hon. HUGH JOHN FLEMMING
Attorney General.....	Hon. W. J. WEST
Provincial Secretary-Treasurer.....	Hon. D. D. PATTERSON
Minister of Agriculture.....	Hon. C. B. SHERWOOD
Minister of Health and Social Services.....	Hon. J. F. McINERNEY
Minister of Lands and Mines.....	Hon. N. B. BUCHANAN
Minister of Education.....	Hon. CLAUDE D. TAYLOR
Minister of Labour.....	Hon. ARTHUR E. SKALING
Minister of Industry and Development.....	Hon. ROGER PICHETTE
Minister of Municipal Affairs and President of the Executive Council.....	Hon. T. BABBITT PARLEE
Minister without portfolio and Chairman of the New Brunswick Electric Power Commission.....	Hon. EDGAR FOURNIER

* Portfolios as at July 31, 1956.

Quebec—Twentieth Ministry*

(Party standing at latest General Election, June 20, 1956: 72 Union Nationale, 20 Liberals, 1 Independent.)

Premier, President of the Executive Council and Attorney General.....	Hon. MAURICE L. DUPLESSIS
Minister of Finance.....	Hon. ONÉSIME GAGNON
Minister of Lands and Forests and of Hydraulic Resources.....	Hon. JOHN S. BOURQUE
Minister of Health.....	Hon. J. H. ALBINY PAQUETTE
Minister of Colonization.....	Hon. J. D. BÉGIN
Minister without portfolio.....	Hon. ANTONIO ELIE
Minister of Agriculture.....	Hon. LAURENT BARRÉ
Minister of Roads.....	Hon. ANTONIO TALBOT
Minister of Labour.....	Hon. ANTONIO BARRETTE
Minister of Game and Fisheries.....	Hon. CAMILLE POULIOT
Minister of Public Works.....	Hon. ROMÉO LORRAIN
Minister of Social Welfare and of Youth.....	Hon. JEAN-PAUL SAUVÉ
Minister of Trade and Commerce.....	Hon. PAUL BEAULIEU
Provincial Secretary.....	Hon. OMER CÔTÉ
Solicitor General and Minister of Transportation and Communications.....	Hon. ANTOINE RIVARD
Minister of Municipal Affairs.....	Hon. YVES PRÉVOST
Minister of Mines.....	Hon. WILLIAM M. COTTINGHAM
Minister without portfolio.....	Hon. TANCÈRE LABBÉ
Minister without portfolio.....	Hon. ARTHUR LECLERC
Minister without portfolio.....	Hon. WILFRID LABBÉ
Minister without portfolio.....	Hon. JACQUES MIGUELON

* Portfolios as at July 31, 1956.

Saskatchewan—Eighth Ministry*

(Party standing at latest General Election, June 20, 1956: 36 Co-operative Commonwealth Federation, 14 Liberals, 3 Social Credit.)

Premier, President of the Council and Minister of Co-operation and Co-operative Development.....	Hon. T. C. DOUGLAS
Provincial Treasurer.....	Hon. C. M. FINES
Attorney General.....	Hon. R. A. WALKER
Minister of Natural Resources.....	Hon. A. G. KUZIAK
Minister of Mineral Resources.....	Hon. J. H. BROCKELBANK
Minister of Highways and Transportation.....	Hon. J. T. DOUGLAS
Minister of Education.....	Hon. W. S. LLOYD
Minister of Social Welfare and Rehabilitation.....	Hon. T. J. BENTLEY
Minister of Municipal Affairs.....	Hon. I. F. MCINTOSH
Minister of Labour.....	Hon. C. C. WILLIAMS
Minister of Agriculture.....	Hon. I. C. NOLLET
Minister of Public Works.....	Hon. I. A. DARLING
Minister of Public Health.....	Hon. J. W. ERB
Minister of Telephones.....	Hon. C. C. WILLIAMS
Provincial Secretary.....	Hon. R. BROWN
Minister without portfolio.....	Hon. J. H. STURDY

* Portfolios as at July 31, 1956.

British Columbia—Twenty-Fifth Ministry*

(Party standing at latest General Election Sept. 19, 1956: 39 Social Credit, 10 Co-operative Commonwealth Federation, 2 Liberals, 1 Labour.)

Premier, President of the Council and Minister of Finance.....	Hon. WILLIAM A. C. BENNETT
Provincial Secretary and Minister of Municipal Affairs.....	Hon. WESLEY D. BLACK
Attorney-General.....	Hon. ROBERT W. BONNER
Minister of Mines.....	Hon. WILLIAM K. KIERNAN
Minister of Highways.....	Hon. PHILIP A. GAGLIARDI
Minister of Agriculture and Fisheries.....	Hon. WILLIAM R. T. CHETWYND
Minister of Lands and Forests.....	Hon. RAY WILLISTON
Minister of Health and Welfare.....	Hon. ERIC C. F. MARTIN
Minister of Labour and Railways.....	Hon. LYLE WICKS
Minister of Public Works.....	Hon. WILLIAM N. CHANT
Minister of Education.....	Hon. LES PETERSON
Minister of Trade and Industry.....	Hon. EARLE C. WESTWOOD

* Portfolios as at Sept. 28, 1956.

Page 100—Federal Royal Commissions

Royal Commissions appointed from May 31, 1955 to Aug. 31, 1956:—

June 17, 1955....Royal Commission on Canada's Economic Prospects.....	W. L. GORDON, Chairman OMER LUSSIER ALBERT E. GRAUER ANDREW STEWART RAYMOND GUTHRIE
Dec. 2, 1955....Royal Commission on Canadian Television and Radio Broadcasting.....	R. M. FOWLER, Chairman EDMOND TURCOTTE JAMES STEWART

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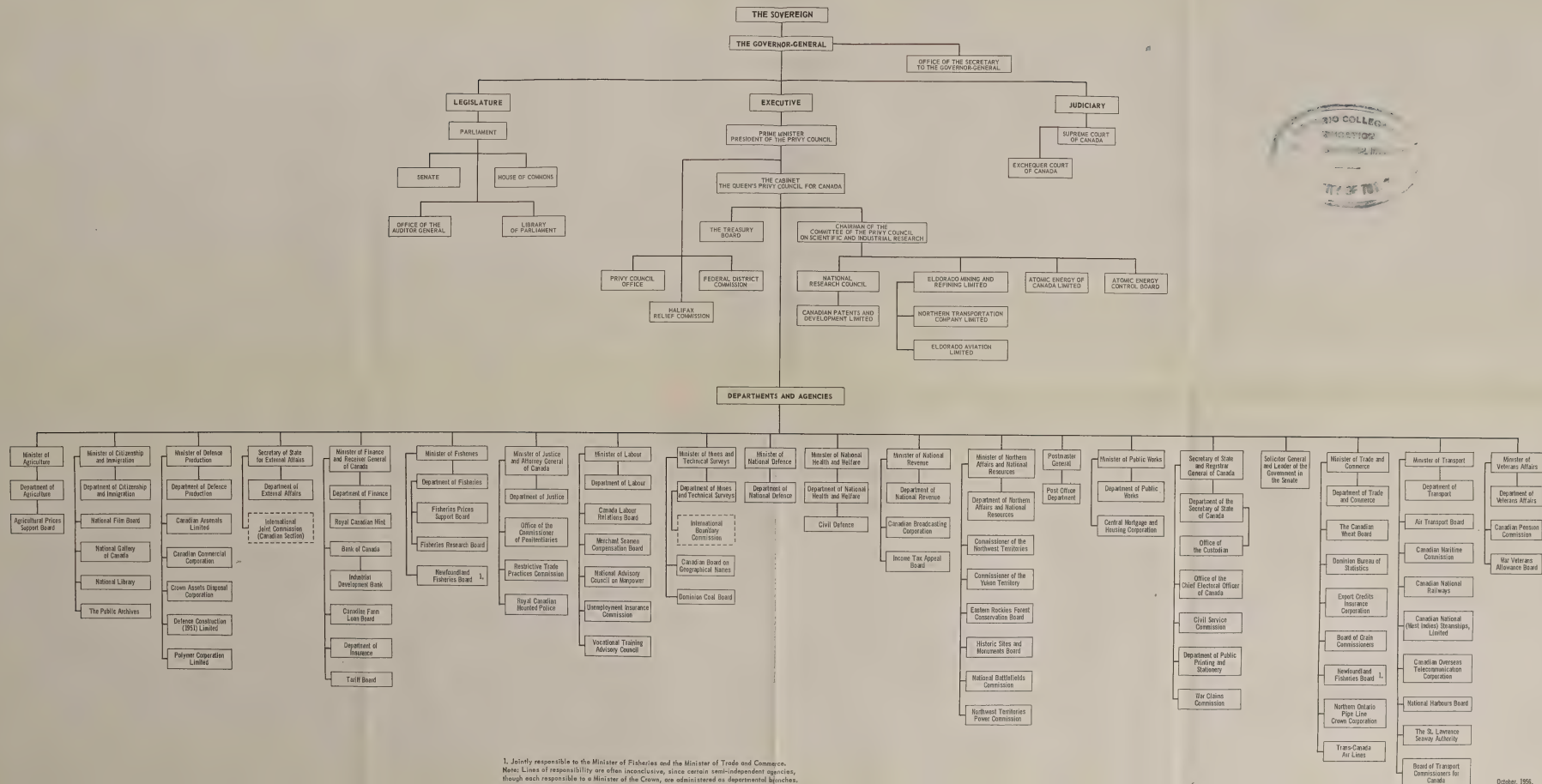
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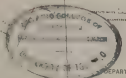
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